

**Final Corrective Measures
Completion Report for SWMU 52D
Tooele Army Depot
Tooele, Utah**



Prepared for:

**U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814-2922**

April 2004

Prepared by:

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April 6, 2004

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1.0 INTRODUCTION

This Corrective Measures Completion Report (CMCR) presents a summary of the remedial action and data collection activities that occurred during the Removal Action (RA) at Solid Waste Management Unit (SWMU) 52D, in Tooele County, Utah, in November 2002, February 2003, May 2003, and June 2003. The removal action activities include the preparation for the removal action (i.e., underground utility searches, on-site technical meetings, etc.), the excavation and the disposal of chlordane-contaminated soils from the site, and the backfill and compaction of clean soils at the site. The data collection activities include confirmation sampling, analysis methods, and analytical results. The RA activities were performed in accordance with the *Final Health and Safety Design Analysis (HSDA)*, the *Remedial Action Plan (RAP)*, and the *Sampling and Analysis Plan (SAP)*, all for SWMU 52D. The U.S. Army Corps of Engineers (USACE), Sacramento District, prepared these plans for the SWMU 52D project. In addition, the activities were also performed in accordance with the *Pre-Construction Plans*, consisting of the *Site Safety and Health Plan (SSHP)*, the *Site Security Plan (SSP)*, the *Dust Control Plan (DCP)*, the *Spill Control Plan (SCP)* and the *Quality Control Plan (QCP)* prepared by Laguna Construction Corporation (LCC) and SCA Environmental, Inc., and approved by the USACE – Sacramento District. Unless otherwise noted, “Chlordane” refers to Chlordane (NOS), CAS # 57-74-9.

1.1 SITE LOCATION AND HISTORY

TEAD is located 7 miles south of the Great Salt Lake and approximately 35 miles southwest of Salt Lake City, Utah, immediately west of the city of Tooele (see **Figure 1**). The Tooele Ordnance Depot was established by the U.S. Army Ordnance Department in April 1942. Tooele Ordnance Depot assumed command of Deseret Chemical Depot, located 17 miles south of Tooele, in 1949. TEAD was redesignated as Tooele Army Depot – North in August 1962. Deseret Chemical Depot was realigned in 1996 and the designation of North was removed from TEAD’s name. A portion of TEAD was placed on the Base Realignment and Closure (BRAC) list in December 1993 and was transferred to the City of Tooele in 1998. Prior to TEAD’s inclusion on the BRAC list, the primary mission was the storage, maintenance, and demilitarization of military vehicles, topographic equipment, troop support items, power generators, and conventional munitions. The realignment transferred all vehicle and equipment duties to Red River Army Depot, Texas. The current mission of TEAD is the storage, maintenance, and demilitarization of conventional munitions.

As the result of past activities at the installation, TEAD was included in the U.S. Army’s Installation Restoration Program (IRP) in 1978. TEAD was placed on the National Priorities List (NPL) in 1990. A Federal Facility Agreement (FFA) was entered into between the U.S. Army, U.S.

Environmental Protection Agency (EPA) Region 8, and the State of Utah in 1991. As a result of past operations and environmental investigations, a number of sites on the installation have been identified and designated as SWMUs, and a Resource Conservation and Recover Act (RCRA) Post-Closure Permit was issued for the Industrial Waste Lagoon by the State of Utah in 1991. A new Post Closure and Corrective Action Permit was issued to TEAD in February 2001. This permit includes a Corrective Action Permit (CAP) that requires actions at 42 SWMUs. SWMU 52D is one of the SWMUs identified in the CAP and has been incorporated into the Group C Suspected Releases SWMUs.

SWMU 52D is located near the southeast corner of TEAD, in the western part of the Horse Stable area, south of the Main Entrance Road. The area is relatively small (approximately 350 square feet). A barbwire fence runs along the eastern boundary, and a concrete culvert running underneath the railroad tracks forms the western boundary. The railroad tracks are elevated approximately 5 feet above ground surface, and the culvert outlet is approximately 3 feet below ground surface. The ground surface in the area of excavation was originally just above the top of the culvert (and was restored to this level upon backfilling). Prior to this removal action, the soil at SWMU 52D contained elevated levels of the pesticide chlordane. There was no generator knowledge that the pesticide-contaminated soil was a RCRA-listed waste.

1.2 SITE HYDROGEOLOGY

TEAD is located in Tooele Valley. Groundwater conditions vary greatly across the valley with both unconfined and confined aquifers. The depth to groundwater varies from less than 10 feet below the ground surface (bgs) near the Great Salt Lake to more than 1,500 feet bgs in the southwestern portion of Tooele Valley.

The general groundwater flow direction at TEAD is from the southeast to the northwest. Groundwater gradients at TEAD are relatively flat except in the northeastern area near the bedrock outcrops where gradients steepen considerably. The depth to the groundwater at SWMU 52D is approximately 320 feet bgs (State of Utah, 1994).

1.3 PREVIOUS SITE INVESTIGATIONS

During Phase I field activities for SWMUs 52A and 52B, additional issues associated with the Administration Area of the BRAC Parcel were identified, including the potential of pesticide transport from the southern portion of the Administration Area (SWMU 52D). Subsequently, initial field activities were performed at SWMU 52D during the Phase II RCRA Facility Investigation (RFI) in 1994 (see **Figure 2**). Rust Environmental and Infrastructure collected a total of five surface soil samples from a runoff ditch located on the west side of SWMU 52D to determine the source and extent of pesticide

contamination detected at SWMU 35. Laboratory analyses indicated that the soil samples contained aldrin, alpha-chlordane, DDD, DDE, DDT, dieldrin, endrin, and gamma-chlordane.

To determine the source and extent of the pesticide contamination, a Supplemental Sampling Investigation was performed by Science Applications International Corporation (SAIC) in 1996. Twenty surface and subsurface (0 to 3.0 feet bgs) soil samples were collected and analyzed for pesticides.

Results of the Supplemental Sampling Investigation indicate that pesticides were distributed throughout the SWMU area with the highest concentrations located near stable buildings. Based on the human health risk assessment performed in the RFI, nine pesticides (aldrin, chlordane, dieldrin, endrin, heptachlor epoxide, lindane, DDD, DDE, and DDT) were identified as contaminants of potential concern (COPCs) in surface soil, and three pesticides (DDD, DDE, and DDT) were identified as COPCs in subsurface soils.

The CMS Work Plan (Dames & Moore, 2001a) identified contaminants of concern (COCs) by comparing the maximum concentration of each COPC identified in the RFI Report to its respective quantitative Corrective Action Objective (CAO). The COPCs for the surface soil were evaluated in conjunction with the results of the human health risk assessment to further assess the need for corrective action. In accordance with UAC R315-101-5.2(b)(1), residential CAOs were utilized in the human health risk assessment. Chlordane was the only COC identified in the surface soil.

The subsurface COPCs DDD, DDE, and DDT were evaluated in conjunction with the results of the human health risk assessment to further assess the need for corrective action. Construction worker CAOs were utilized for this evaluation of subsurface soil. No COCs were identified in subsurface soil at SWMU 52D.

After establishing the COCs for the site, the COCs were evaluated in conjunction with results of the human health risk assessment to determine whether active corrective measures needed to be evaluated. As stated in the RFI (SAIC, 1998), the human health risk assessment used the exposure point concentration (EPC), which represents the likely concentration that an individual would be exposed to by working in the area of the SWMU, to calculate human health risks. The EPC for each COC was compared to its respective CAO.

While the EPC for chlordane is less than its associated CAO, corrective measures were performed at SWMU 52D because of a single hot spot of chlordane detected at an order of magnitude exceeding its CAO and because reasonably anticipated future land use at this site is residential.

According to the RFI, the contaminants at SWMU 52D were not likely to affect groundwater quality based on the low levels of contamination in the soil, low precipitation rates, high evaporation rates, and depth to groundwater (estimated to be 320 feet bgs).

1.4 PROJECT STAFFING

Project personnel and their roles are summarized in following chart. Mountain States Analytical provided the primary laboratory analyses for the site. Severn-Trent Laboratories of West Sacramento, CA, was the Quality Assurance (QA) laboratory.

Summary of Project Roles and Responsibilities for Interim Removal Action

Company	Staff	Role & Responsibilities
USACE	Project Manager Phred Strickland	<ul style="list-style-type: none"> Clarify Project Objectives. Technical administration and distributing relevant information to Project Team. Point-of-contact with regulatory personnel. Obtain right of entry for site personnel. Coordinate USACE presence on site.
USACE	Technical Team Leader April L. Fontaine	<ul style="list-style-type: none"> Coordinate technical issues pertaining to the project.
USACE	On-Site Representative April Fontaine	<ul style="list-style-type: none"> Confirm quantities and conditions
Tooele Army Depot	Project Manager Larry McFarland Disposal Coordinator Dean Reynolds	<ul style="list-style-type: none"> Client for USACE and subcontractor services Review Scope of Work for U.S. Army Review and Sign Manifests
Laguna Construction	Project Manager Roy Phares	<ul style="list-style-type: none"> Plan and develop the IRA, SAP, & SSHP. Coordinate activities of Project Team. Control Budget, Schedule, and Quality to USACE specifications. Ensure that project objectives are met.
Laguna Construction	Field Manager Nevin Poncho	<ul style="list-style-type: none"> Implement Work Plan Coordinate daily activities with site personnel
SCA	Project Manager Kenneth Conner	<ul style="list-style-type: none"> Review technical data. Review QA and Quality Control (QC) data from laboratory reports. Review daily reports from the field.
SCA	Project Engineer and Site Safety and Health Officer Chris Sununu Jedd Parr	<ul style="list-style-type: none"> Supervise overall Health and Safety activities at site. Inform site personnel of safety and health hazards. Perform on-site H&S training. Perform soil sampling and sample handling.
Mountain States Analytical	Rolf Larsen Manager	<ul style="list-style-type: none"> Provide primary and QC analyses of soil samples and waste characterization analysis.
MP Environmental	Jennifer Orr	<ul style="list-style-type: none"> Provide disposal of RDW.

2.0 PROJECT OBJECTIVES

Laguna's project tasks for this project included the following items:

- Utility clearance of areas marked for excavation;
- Excavation of chlordane-contaminated soils to a CAO of 1500 µg/Kg;
- Excavation of approximately 68.69 tons of chlordane-contaminated soils;
- Off-site disposal of approximately 68.69 tons of chlordane-contaminated soils;
- Confirmation soil sampling in the excavated areas;
- Surveying area prior to backfill; and
- Backfill and compaction of the excavated areas to original conditions.

3.0 REMOVAL AND DISPOSAL ACTIVITIES

3.1 GENERAL

This section summarizes the removal activities including deviations from the Work Plans (which consist of the HSDA, RAP, and the SAP prepared by the USACE as well as the SSHP, SSP, SCP, DCP and the QCP prepared by LCC and SCA), sample locations, analytical methods, and conditions and decisions noted during the event. Except as noted below, all sample collection activities were performed in accordance with the SAP. All fieldwork performed was conducted in accordance with the RAP, the HSDA, the SSHP, the SCP, the SSP, the DCP, and the RAP written specifically for this project. The entire excavation area was cleared through the Tooele Army Depot's Engineering Division prior to the commencement of any field activities. Additionally, Blue Stakes of Utah was notified of the activities and a ticket was maintained throughout the duration of field activities. Level III Communications was also notified during Blue Stakes' clearance of the area and after discovery of an underground fiber optic cable. A utility drawing is included with this report as **Figure 3**. **Appendix A** has the Daily Reports, the Sign-In Sheets and the Field Notes for the project.

3.2 REMOVAL ACTION ACTIVITIES

The removal was performed during five mobilizations on November 18-22 and 25-26, 2002, February 3-6, 2003, May 28-30, 2003, and June 2-6, 2003. All removal actions were based on laboratory results from either previous studies or confirmation samples from the excavated areas. **Table 1** provides the Laboratory Results Summary for the confirmation samples during the project and **Appendix B** provides the laboratory reports. Only slight deviations were made from the work plan for this project. Section 3.2.3 will discuss in more detail the specific deviations made and the rationale for each. The following information is a summary of the events that took place during the removal action.

3.2.1 Summary

This removal action comprised the excavation of approximately 68.69 tons of chlordane-contaminated soils, bin sampling for waste profiling, off-site disposal of these soils, confirmation sampling of the excavated areas, and the backfill and compaction of the excavated area with clean soils. **Table 2** provides the confirmation sampling results and the corresponding actions based on the results throughout the mobilizations. These activities took place over the time periods described above.

Site preparation activities were performed in accordance with the work plan. Site controls were established as dictated in the RAP. During the excavation, a track hoe was used for the removal of soils. A 10-wheel truck with an empty 20-yard bin was backed into the area and the bin dropped adjacent to the

excavation area. The bin ID number and date were logged onto a field form upon placement. The yellow Hazardous Waste Label was placed on each bin prior to placing any material in the bin as a precaution until waste characterization was complete. The bin was then loaded, with a polyliner being placed on the path the excavator bucket followed to catch any dropped soil. When the bin was full, a 4-point composite sample was taken from the bin so as to characterize the soils for disposal. While stored on site, all bins remained locked and labeled.

Upon receipt of the bin sample results, a non-hazardous label was applied, the hazardous label was removed, a non-hazardous waste manifest was completed, and the bin was transported to U. S. Ecology Idaho's Grand View facility for disposal. Although the excavated soil was not RCRA or Department of Transportation (DOT) regulated, non-hazardous waste manifests accompanied every shipment. The bin ID number was also placed on the corresponding manifest for each load. Section 3.3 discusses the disposal of the excavated soils in further detail. **Appendix C** has a photograph log for the project. **Table 3** provides the bin lists for the project and **Appendix D** has the bin lists and the copies of the manifests.

The first mobilization to the site took place from November 18 to November 22, 2002. On November 18, sampling and site equipment was gathered, and a pre-construction meeting was held with involved personnel. The excavation permit was confirmed, and a bin was placed on site (bin 5067). On November 21, the first excavation took place. This measured 10' north-south by 15' east-west, and went approximately 1.5' bgs (see **Figure 4**). The removed soils were loaded into bin 5067. Confirmation samples were taken in the east wall (SWMU52D-CS-01-1), north wall (SWMU52D-CS-02-1), south wall (SWMU52D-CS-03-1), and floor (SWMU52D-CS-04-1). A QC sample (SWMU52D-CS-05-1), an MS/MSD pair (SWMU52D-CS-04-1-MS and SWMU52D-CS-04-1-MSD), a rinseate sample (RINS52D-1), and a QA sample (SWMU52D-CS-04-1-QA) were also taken. The QA sample was sent to Severn-Trent Laboratories of West Sacramento, CA, and the data reported directly to the USACE. All other samples were sent to MSA of Salt Lake City, UT. A concrete culvert defined the west wall of the excavation, and thus no samples were taken from this wall during any sampling events.

The second mobilization took place from November 25 to November 26, 2002, as analytical results from November 21, 2002 indicated that further removal was necessary along the north and south walls and floor. On November 25, bin 9084 was placed on site. On November 26, the second excavation event took place. First, an additional 3' from both the north and south walls was removed. Following that, an additional 1' from the floor was removed, which included the floor areas newly exposed by the north and south wall removal. At this stage, the pit measured 16' north-south by 15' east-west, and was approximately 2.5' bgs (see **Figure 5**). The removed soils were loaded into bin 9084. Confirmation samples were taken from the north wall (SWMU52D-CS-06-1.25), south wall (SWMU52D-CS-07-1.25),

and floor (SWMU52D-CS-08-2.5).

The third mobilization took place from February 3 to February 6, 2003, as analytical results from November 26, 2002 indicated that further removal was necessary along the south wall and floor. On February 4, two bins (5177 and 4867) were placed on site. On February 5, the third excavation event took place, removing an additional 5' from the south wall, and following, an additional 1' from the floor (including the floor area newly exposed by the removal from the south wall). At this stage, the pit measured 21' north-south by 15' east-west, and was approximately 3.5' deep (see **Figure 6**). The removed soils were loaded into bins 5177 and 4867. Confirmation samples were taken from the south wall (SWMU52D-CS-15-2) and floor (SWMU52D-CS-17-3.5). A QC sample was also taken from the south wall (SWMU52D-CS-16-2).

The fourth mobilization took place from May 28 to May 30, 2003, as analytical results indicated that further removal was necessary along the floor. On May 28, two bins (5123 and 4380) were placed on site, and the fourth excavation event began. An additional 1' was removed from the floor. At this stage, the pit measured 21' north-south by 15' east-west, and was approximately 4.5' deep (see **Figure 7**). Hand shoveling was necessary at certain points in order to avoid damage to an exposed fiber-optic cable (see Section 3.2.2). The removed soils were loaded into bins 5123 and 4380. A confirmation sample was taken from the floor (SWMU52D-CS-18-4.5). On May 29, a QC sample was taken from the floor (SWMU52D-CS-19-4.5).

The fifth mobilization took place from June 2 to June 6, 2003. At this point, analytical results indicated that no further excavation was necessary along any of the walls or floor. On June 6, Ensign Surveying, of Tooele, UT, completed a survey of the area prior to backfilling. Clean soils were then trucked in from an off-site source (see **Appendix E** for information on backfill soils). A combination of gravel and topsoil was used for backfilling. The material was loaded into the excavation area in loose 6- to 12-inch lifts and compacted (see **Appendix F** for survey information). The area was graded to allow drainage along preexisting lines (a drainage ditch running parallel to the railroad tracks and a culvert running beneath the tracks).

3.2.2 Observations

During the first excavation (November 2002), flagging for an underground fiber optic line was discovered. The direction or depth of the cable could not immediately be discovered. Upon further excavation (February 2003), three of the fiber optic conduits were severed. Two were empty, and the third had no damage to the cable itself, only the casing around it. Level III Communications was on site and confirmed that there had been no major service interruption. The conduits were repaired immediately, and hand excavation proceeded around them thereafter.

3.2.3 Deviations from Work Plan

There were two departures from the RAP and the SAP during field activities. The first (November 2002) concerned the required Quantitation Limits (QLs) set forth in the Corrective Measures Work Plan (CMWP). Soil samples analyzed for total chlordane used 0.066 mg/kg instead of 0.050 mg/kg for the QL, and those analyzed for lindane, heptachlor and heptachlor epoxide via TCLP used 0.0001 mg/L instead of 0.00005 mg/L for the QL. This change was documented and approved in a variance form submitted to the USACE and UDEQ.

The second departure from the RAP and the SAP occurred when a 4-point composite sample was taken on May 28, 2003 (sample ID SWMU52D-CS-18-4.5) for the floor confirmation sample after the last stage of excavation. This procedure was also followed for a QC sample (sample ID SWMU52D-CS-19-4.5) taken on May 29, 2003. The change was documented and approved in a variance form submitted to the USACE and UDEQ. **Appendix G** contains the variances for this project.

3.3 DISPOSAL ACTIVITIES

All the excavated soils from the site were disposed of at U. S. Ecology Idaho's landfill in Grand View, Idaho. The receiving facility information is provided below. Although the excavated soil was not RCRA or DOT regulated, non-hazardous waste manifests, provided by TEAD's Environmental Office, were filled out for each transport and accompanied every shipment. A TEAD representative reviewed bin analytical results and approved and signed each manifest. Truck ID numbers and bin ID numbers were recorded on each manifest for tracking purposes.

Receiving Facility Information

Facility Name:	U. S. Ecology Idaho
Site Address:	10.5 mi NW on Hwy. 78 Grand View, ID 83624
Phone No.:	(208) 834-2919

The excavated soils were characterized prior to bin removal based on 4-point composite bin samples. One soil profile was established with U. S. Ecology Idaho and approved by TEAD. It should be noted that Toxic Characteristic Leaching Procedure (TCLP) results were supplied to the disposal facility for the first four bins, but due to a Chain of Custody error, TCLP results were not received for the last 2 bins (both filled 5/28/03). None of the previous TCLP results indicated that the soil was a hazardous waste based on chlordane concentrations (that is the TCLP concentrations did not exceed 0.030 mg/L for chlordane) and the generator did not have knowledge that the contaminated soil was a listed waste. The disposal facility was given all laboratory results, and determined that the bins were acceptable. **Table 3**

summarizes the sample results for the 6 bins used at SWMU 52D. Copies of the waste manifests are included in **Appendix D**.

3.4 SAMPLE LOCATION AND ANALYSES RATIONALE

The sampling rationale employed for the project was developed in the work plan and approved by USACE. The sampling rationales were developed to provide further characterization of the remaining soils at the site and soil profile information for disposal.

3.4.1 Confirmation Sampling Location Rationales

Originally, four (4) sample locations were chosen within the excavation area. One sample location occurred at the floor of the newly exposed area for the 1.5-foot cut. Three sample locations also occurred in the walls of the 1.5-foot cut. A concrete culvert limited the west wall of the excavation, and thus no samples were taken from the west wall during any sampling activities. The first round of confirmation samples (11/21/2002) showed further excavation was necessary along the floor, north wall, and south wall, while the east wall was cleared.

The second round of confirmation samples (11/26/2002) were taken in the excavation area floor, north wall, and south wall after additional soils were removed. At this point, the excavation was approximately 2.5 feet deep. The north wall was cleared, but the floor and south wall samples showed further excavation was necessary.

The third round of confirmation sampling (2/5/2003) comprised one sample from the south wall and one from the pit floor after additional excavation. At this point, the excavation was approximately 3.5 feet deep. Lab results cleared the south wall, but showed that the floor required further excavation.

The last round of confirmation sampling (5/28/2003) was a single floor sample taken after further excavation from the floor only, as all 4 walls had previously been cleared. The floor sample was a 4-point composite instead of a discrete grab sample (as discussed above). At this point, the excavation was approximately 4.5 feet deep. Lab results from the floor were acceptable. **Figures 4 through 7** show the sample locations for the confirmation samples.

3.5 SAMPLE COLLECTION PROCEDURES

The laboratory performing the chemical analyses provided all sample containers for this project. Containers were labeled with the date, time, project name, sample number, sampler's name, parameters for analysis, and preservative. All sample shipments occurred under Chain-of-Custody protocol. Samples were maintained and documented from the time of sample collection to completion of the

analyses. When the samples were transferred from one point to another, the individuals signed, dated and noted the time on the chain-of-custody.

Appropriate decontamination measures were taken during sampling activities to minimize sample contamination from sampling equipment. These procedures were consistent with those outlined in the SAP section of the work plan. Decontamination was executed immediately prior to equipment use.

No deviations from the work plan were made with the soil collection methods, with the above exception of a 4-point composite being used instead of a grab sample. Samples were collected in an 8-oz. plastic jar (supplied by MSA) by using a hand trowel and steel bowl to grab the sample directly from the excavation area (wall, floor, etc.) being sampled. Bin samples were taken as 4-point composites, using the steel bowl to homogenize the soil before sampling.

3.6 QUALITY CONTROL PROGRAM

Field Quality Control (QC) and laboratory Quality Assurance (QA) samples were included in this project to support the data quality objectives presented in the Quality Assurance Project Plan (QAPP). The QAPP and SAP (written by the USACE) and the QCP (by LCC and SCA) were the operating documents for assuring quality control. QA samples were sent to Severn-Trent Laboratories, Inc., of West Sacramento, California, under a separate contract. The QA data was submitted by the laboratory directly to the USACE. The laboratory, for random batches, would prepare a Material Spike/Material Spike Duplicate (MS/MSD) sample from a primary sample for analysis. For this project, the following QC/QA samples were collected: one QA sample for pesticide analysis, three QC samples for pesticide analyses, and two rinseate samples from the soil sampling equipment.

3.7 INVESTIGATION DERIVED WASTE PROCEDURES

Investigation-derived waste (IDW) consisting of decontamination water was generated during the course of fieldwork. The decontamination water was placed in one of the on-site bins for disposal, as the amounts generated were relatively small (~5 gallons/day). Samples from the bin were then collected and used to characterize the waste for disposal. No materials were added to the bins after sampling.

4.0 ANALYTICAL RESULTS

4.1 RESULTS SUMMARY

A summary of the analytical results is presented in **Table 1**. **Figures 4** through **7** shows the sample locations. A summary of the chemical data quality assessment is included in Section 4.2. The Chemical Data Quality Assessment Report (CDQAR), which analyzes the validity of the laboratory methods and sample handling procedures, as well as field procedures, is included in **Appendix H**. The report provides verification that the laboratory results are reliable. Laboratory analytical reports are contained in **Appendix B**.

4.2 CHEMICAL DATA QUALITY ASSESSMENT SUMMARY

The analytical results from the laboratory have been reviewed with respect to the protocols set in the TEAD CDQMP. The text of the CDQAR can be found in **Appendix H**.

No primary or QC samples were analyzed for pesticides past the holding time. A majority of surrogate, MS, Blank Spike (BS), and Laboratory Control Sample (LCS) recoveries were within project specifications. No analytes were reported above the Method Detection Limits (MDLs) in the rinseate blanks.

The QC samples consisted of 3 field duplicate samples, one each from the November 21, 2002, February 5, 2003 and May 29, 2003 sampling events. The February 5, 2003 primary and QC samples were above the 35% RPD (at 38.3%), which may be accounted for by sample heterogeneity. As this was reasonably near the range of 35%, the data was flagged, but still considered acceptable.

The overall representativeness and completeness of these analytical results are judged to be acceptable based on the evaluation of the field and laboratory data. All other data provided for this sampling event, and the quality of the analytical data for the associated samples, should be considered to be of acceptable quality for engineering decisions taking into consideration qualifications stated in **Appendix H**.

4.3 APPLICABLE REGULATORY LEVELS

A Corrective Action Objective (CAO) of 1500 µg/Kg was established as a Residential Surface Soil Action Level for this site, anticipating potential future use of the property as possibly residential. The CAO was met with the final confirmation samples in all directions of the excavation.

5.0 DISCUSSION OF RESULTS

Evaluation of the data shows that the target cleanup level of 1500 µg/Kg was met at each wall and floor of the excavation area. Originally, four (4) sample locations were chosen within the excavation area. One sample location occurred at the floor of the newly exposed area for the 1.5-foot cut. Three sample locations also occurred in the walls of the 1.5-foot cut. A concrete culvert limited the west wall of the excavation, and thus no samples were taken from the west wall during any sampling activities. The first round of confirmation samples (11/21/2002) indicated total chlordane levels of 2610 µg/Kg in the floor, 5860 µg/Kg in the north wall, 3710 µg/Kg in the south wall, and 938 µg/Kg in the east wall. Thus, only the east wall fell below the CAO.

The second round of confirmation samples (11/26/2002), after additional removal, indicated total chlordane levels of 2090 µg/Kg in the floor, 960 µg/Kg in the north wall, and 1650 µg/Kg in the south wall. Only the north wall result was below the CAO.

The third round of confirmation sampling (2/5/2003) comprised one sample from the south wall and one from the floor after additional excavation. Lab results showed total chlordane levels of 687 µg/Kg in the south wall, and 5160 µg/Kg in the floor. Thus, the south wall was cleared, leaving only the floor in need of further removal.

The last round of confirmation sampling (5/28/2003) was a single floor sample taken after further excavation from the floor only. The floor sample was a 4-point composite instead of a discrete grab sample (as discussed above). Lab results showed a total chlordane level of 830 µg/Kg, well below the CAO of 1500 µg/Kg.

Figures 4 through **7** show the sample locations for all of the primary and QC samples collected during the removal action.

6.0 CONCLUSIONS AND RECOMMENDATIONS

All of the original goals, as established in the work plan, were accomplished during the removal action. A total of 68.69 tons of chlordane-contaminated soils were removed from the site and disposed off-site at U. S. Ecology Idaho. Confirmation soil samples were collected in the excavated areas to determine the site conditions present after the removal action. The excavated areas were backfilled with clean soils, compacted, and graded for drainage.

As noted above, there were two departures from the RAP and the SAP. Both were discussed with and approved by the USACE Project Manager, as well as the UDEQ, prior to action being taken.

Before the removal action, the exposure pathways that existed for the chlordane contamination were through physical contact and/or through wind dispersion. The removal action not only removed a majority of the contaminated soil, thus reducing the total volume of chlordane contamination at the site; but also, as a result of the backfill of clean soils, created an approximately 5' thick barrier between the surface and the remaining chlordane-contaminated soils. The compacted fill material for the project consisted of medium gravel and clean topsoil. The material was placed in loose 6-inch to 12-inch lifts and compacted until the desired elevation was achieved. The compacted material was not covered with asphalt or concrete, based on the future use of the area. The compacted fill material should provide an adequate barrier, as precipitation and percolation through the barrier will be very limited. The remaining chlordane-contaminated soils at the site are confined to the subsurface soils at a depth of approximately 5 feet below the current land surface. Thus, dermal contact with the chlordane-contaminated soil beneath the compacted layer has been greatly reduced and dispersion of chlordane-contaminated soil through wind action is also substantially mitigated.

As a result of the removal action, LCC recommends that no further action with respect to remediation is warranted at this time.

7.0 REFERENCES

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USACE, *Sampling and Analysis Plan (SAP), Final, Tooele Army Depot – SWMU 52D – Horse Stable Area, Tooele, Utah*, October 2002.

FIGURES

TABLES

APPENDICES

Appendix A

Daily Reports, Sign-In Sheets and Field Notes

Appendix B

Laboratory Data

APPENDIX C

Photograph Log

APPENDIX D

Bin Lists and Manifests

APPENDIX E

Clean Fill Letter

APPENDIX F

Survey Information

(see attached CD for Survey Electronic Files)

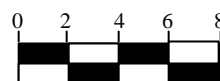
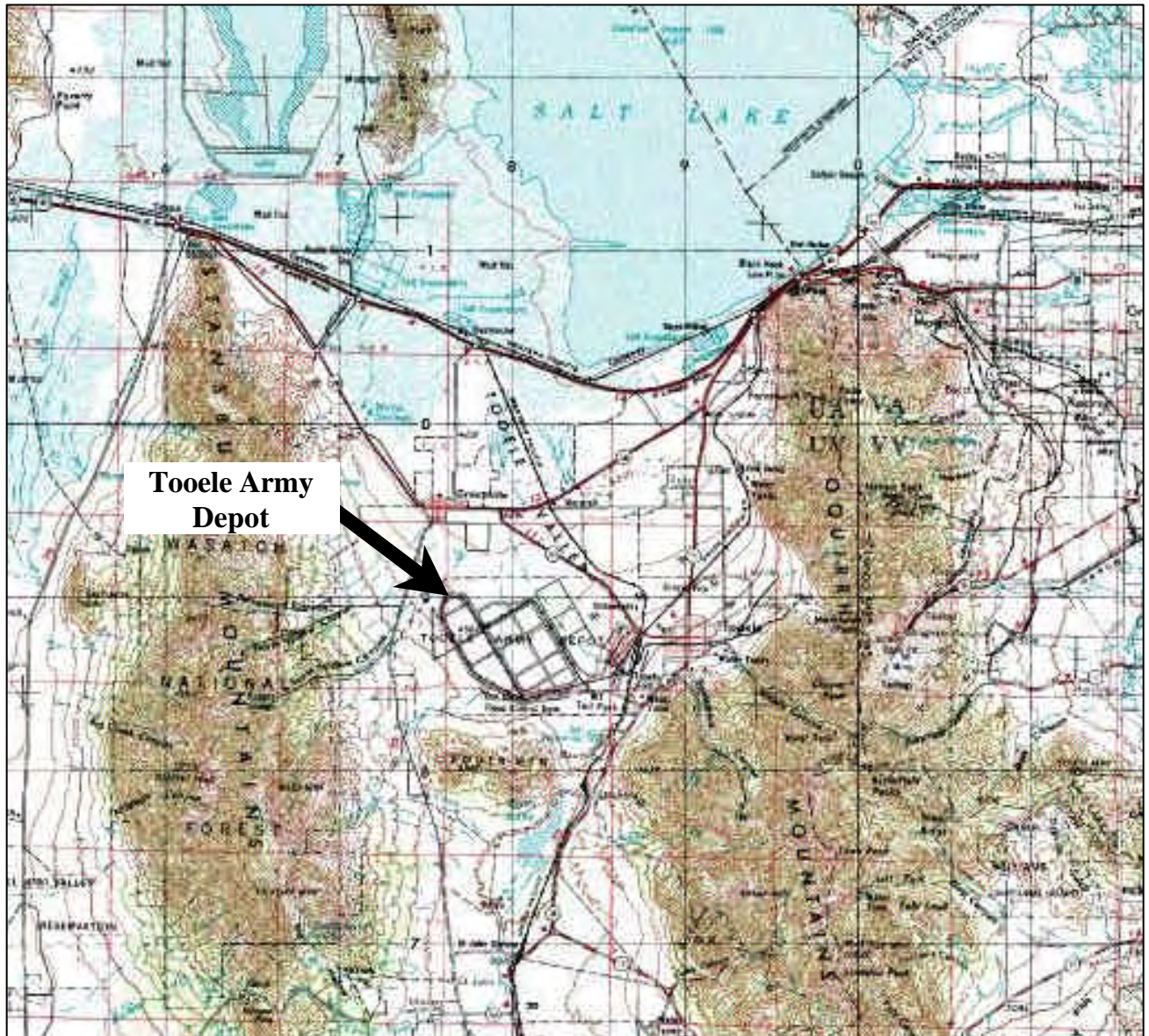
APPENDIX G

Project Variances

APPENDIX H

Chemical Data Quality Assessment Report

FIGURES



APPROXIMATE SCALE:
1 inch = 8 miles



Reference: USGS Topographic Maps: Quadrangles Tooele, Utah (1969) and Stockton, Utah (1993)

SCA
ENVIRONMENTAL, INC.

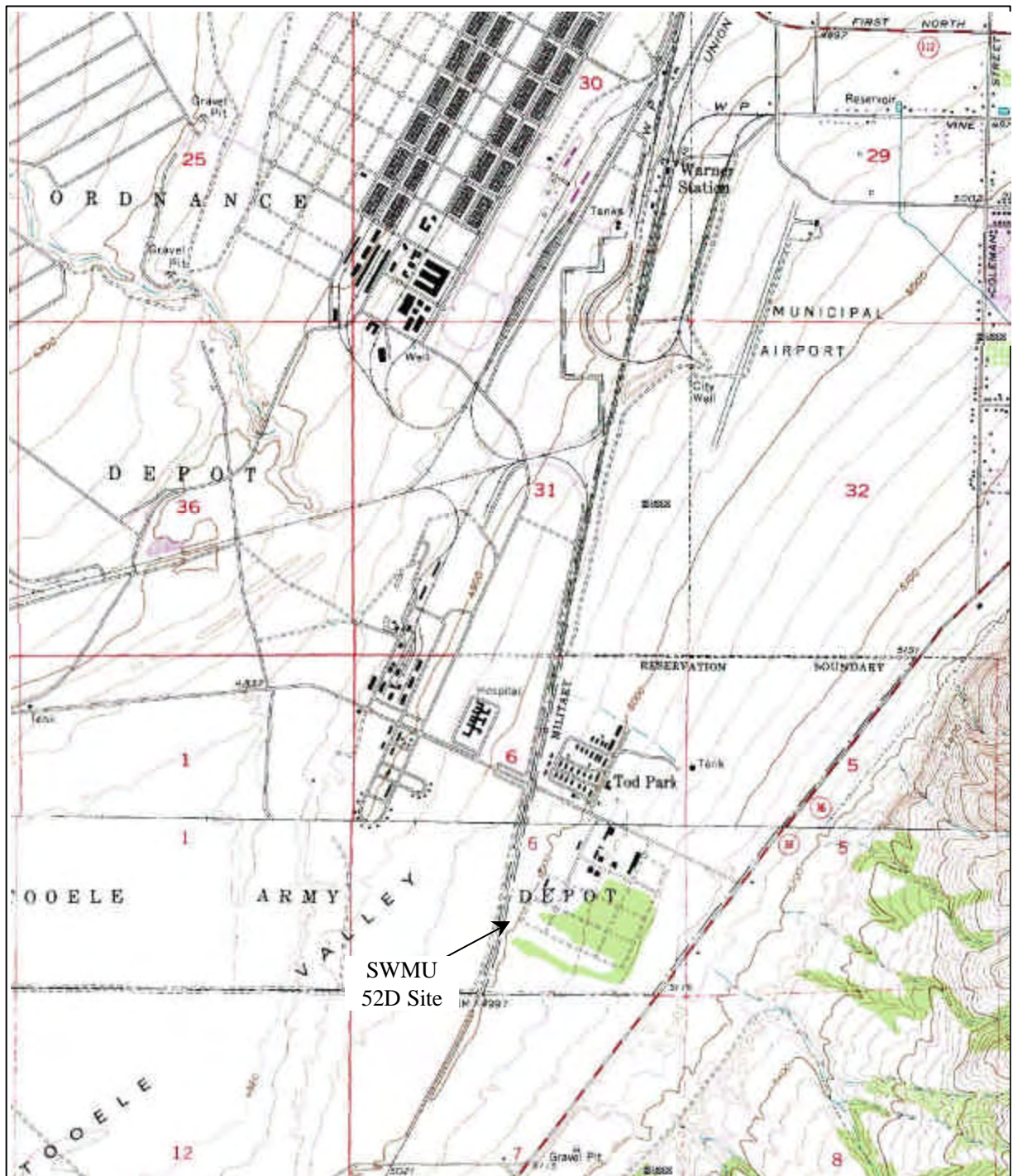
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DATE: 3/29/02
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SITE VICINITY MAP

SWMU 52D
TOOELE ARMY DEPOT
TOOELE, UTAH

FIGURE

1



APPROXIMATE SCALE:
1 inch = 0.25 miles (or 1,320 feet)



Reference: USGS Topographic Maps: Quadrangles Tooele, Utah (1969) and Stockton, Utah (1993)

SCA
ENVIRONMENTAL, INC.

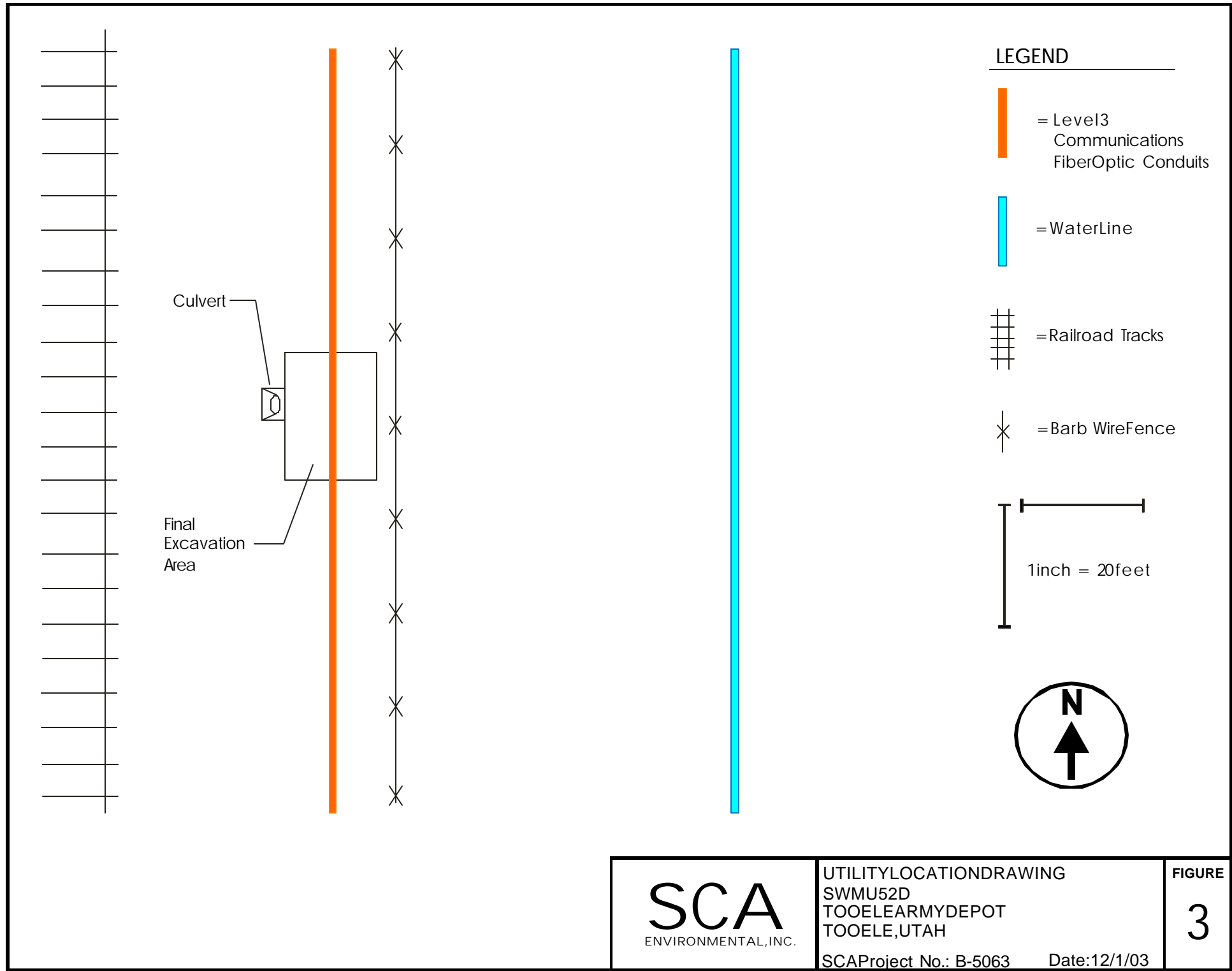
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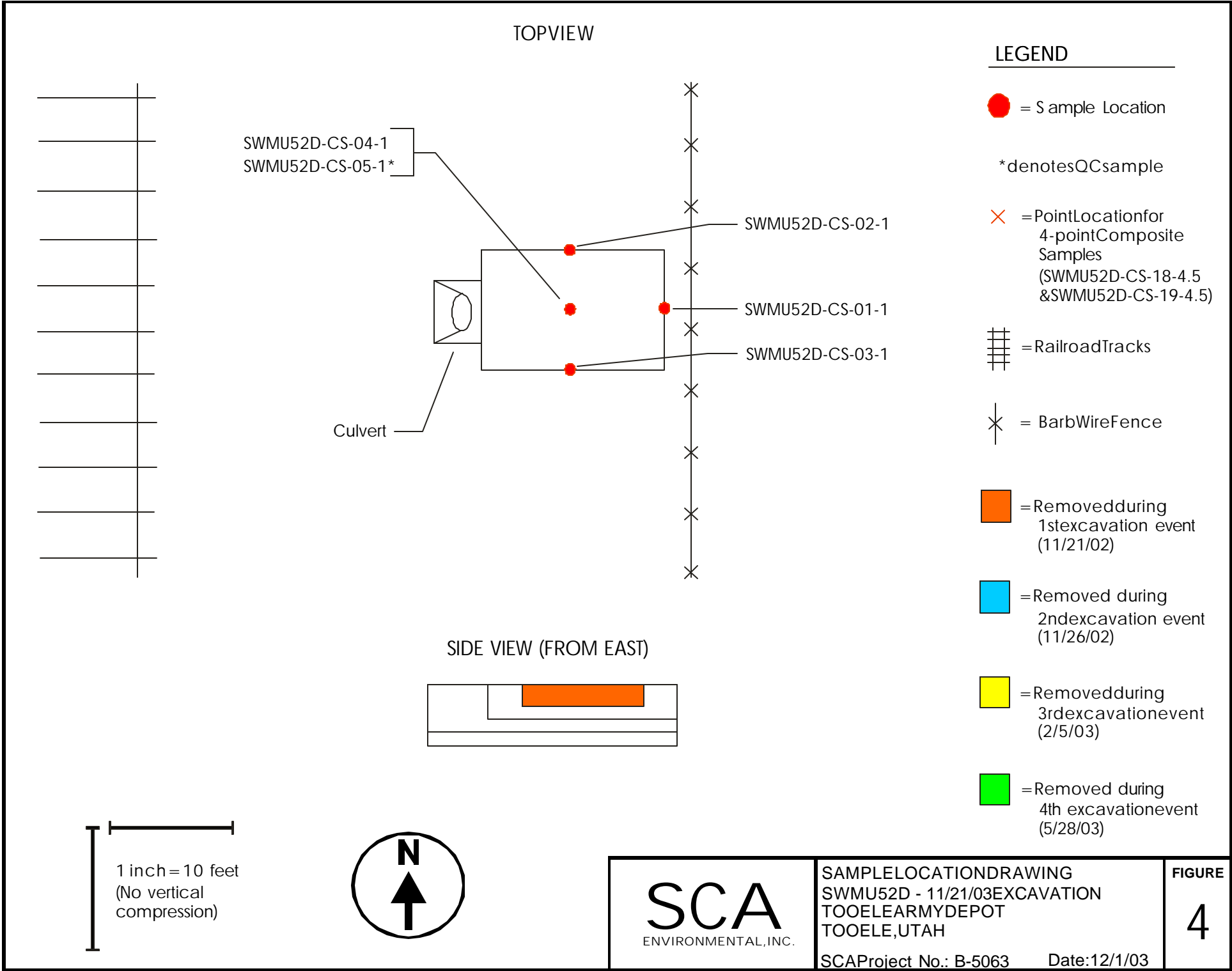
SITE LOCATION MAP

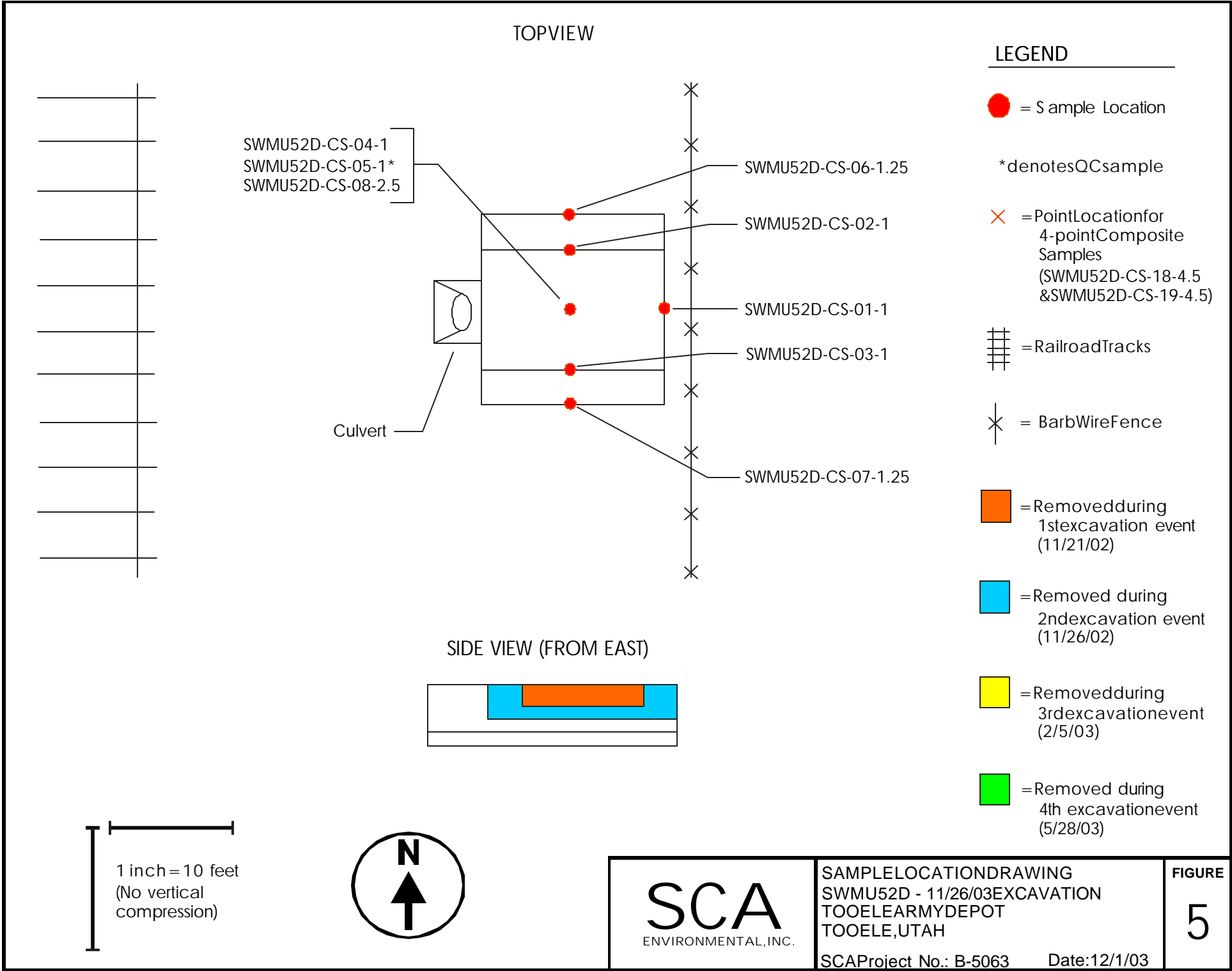
SWMU 52D
TOOELE ARMY DEPOT
TOOELE, UTAH

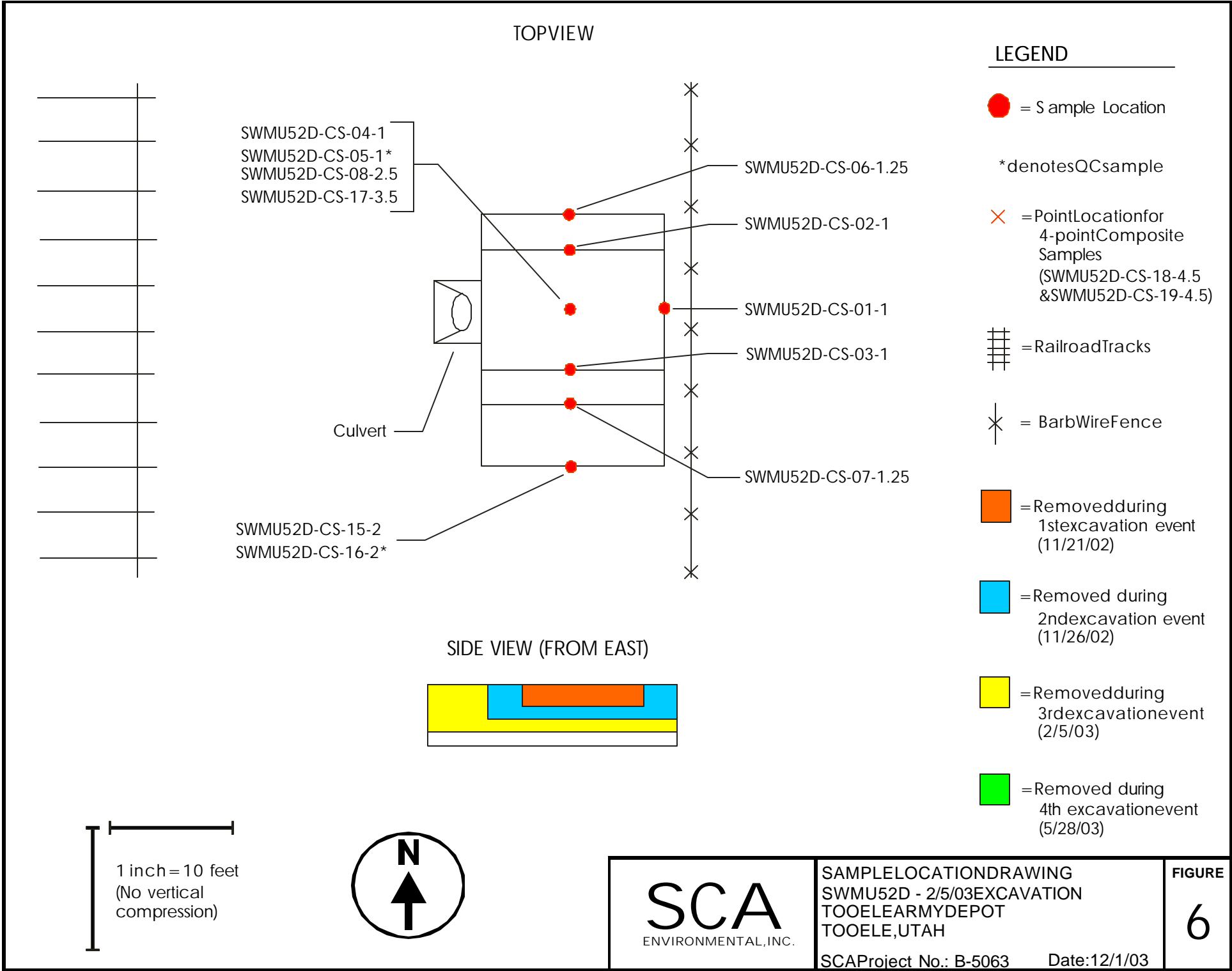
FIGURE

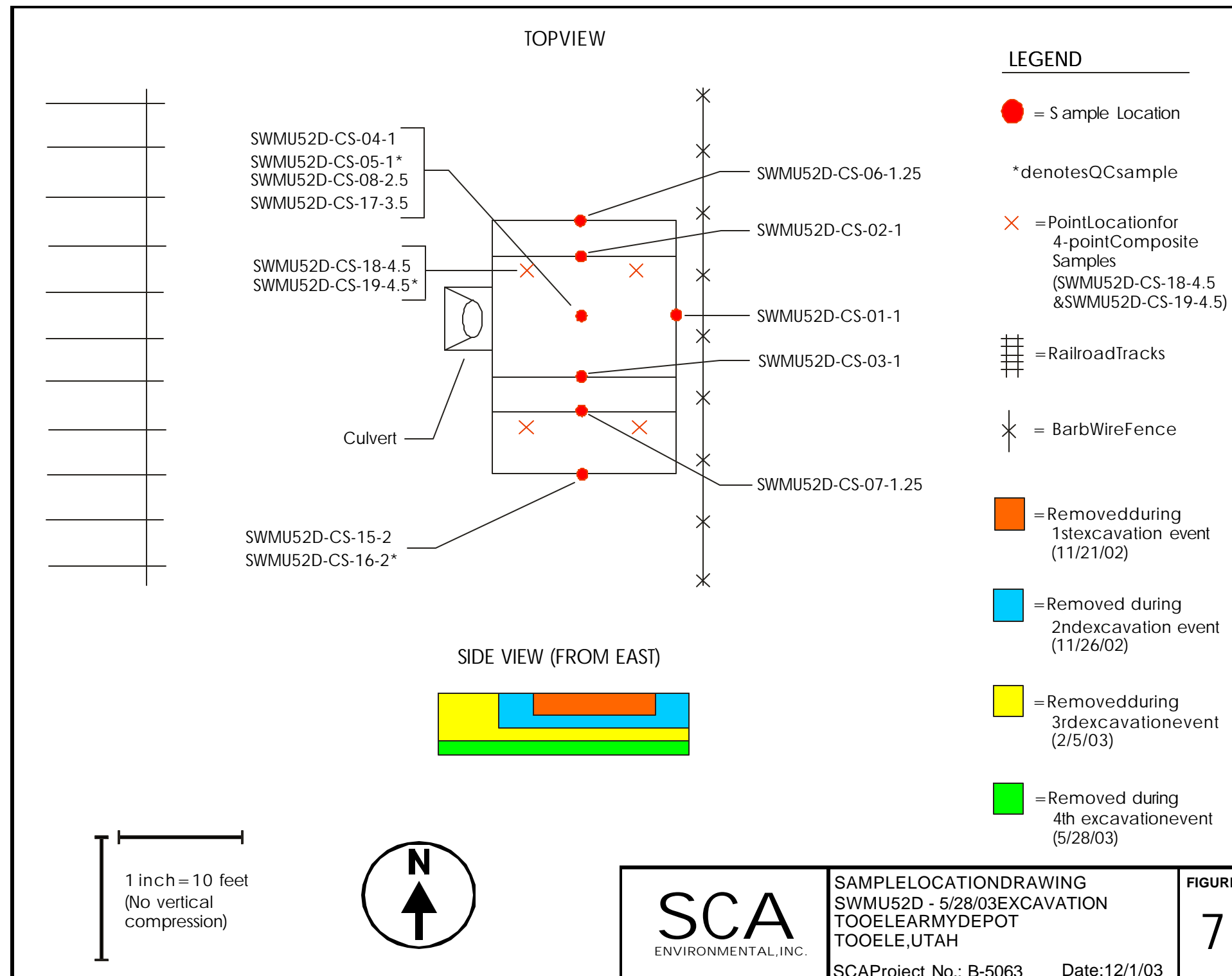
2











TABLES

Table 1 - Summary of Chlordane Confirmation Sampling Results

Sample ID	Date Sampled	Depth Below Original Grade (feet)	Matrix	EPA Method 8081A		
				Chlordane concentration (µg/Kg)	Method Detection Limit (µg/Kg)	Practical Quantitation Limit (µg/Kg)
SWMU52-CS-01-1	11/21/2002	1	Soil	938	20	500
SWMU52-CS-02-1	11/21/2002	1	Soil	5,860	200	5000
SWMU52-CS-03-1	11/21/2002	1	Soil	3,710	40	1000
SWMU52-CS-04-1	11/21/2002	1.5	Soil	2,610	40	1000
SWMU52-CS-05-1*	11/21/2002	1.5	Soil	2,390	40	1000
SWMU52-CS-06-1.25	11/26/2002	1.25	Soil	957	2	50
SWMU52-CS-07-1.25	11/26/2002	1.25	Soil	1,650	20	500
SWMU52-CS-08-2.5	11/26/2002	2.5	Soil	2,090	20	500
SWMU52-CS-15-2	2/5/2003	2	Soil	687	10	250
SWMU52-CS-16-2**	2/5/2003	2	Soil	466	10	250
SWMU52-CS-17-3.5	2/5/2003	3.5	Soil	5,160	100	2500
SWMU52-CS-18-4.5	5/28/2003	4.5	Soil	627	10	250
SWMU52-CS-19-4.5***	5/29/2003	4.5	Soil	830	10	250

Notes:

µg/Kg = micrograms per kilogram (also parts per billion [ppb])

* = Field duplicate (QC) sample for SWMU52-CS-04-1

** = Field duplicate (QC) sample for SWMU52-CS-15-2

*** = Field duplicate (QC) sample for SWMU52-CS-18-4.5

Table 2 - Summary of Lab Results and Actions
SWMU 52D - Tooele Army Depot

Sample Date	Sample ID	Constituent	Result	Units	Action Level	Comments	Recommendation
11/21/2002	SWMU52-CS-01-1	Chlordane	938	ug/Kg	1500	East wall sample	Further Excavation along this wall is not necessary
11/21/2002	SWMU52-CS-02-1	Chlordane	5860	ug/Kg	1500	North wall sample	Continued Excavation
11/21/2002	SWMU52-CS-03-1	Chlordane	3710	ug/Kg	1500	South wall sample	Continued Excavation
11/21/2002	SWMU52-CS-04-1	Chlordane	2610	ug/Kg	1500	Floor sample	Continued Excavation
11/21/2002	SWMU52-CS-05-1	Chlordane	2390	ug/Kg	1500	Duplicate from floor sample 04; good agreement, but exceeds action level	Continued Excavation
11/26/2002	SWMU52-CS-06-1	Chlordane	957	ug/Kg	1500	2nd North wall sample (formerly #2); performed after additional excavation	Further Excavation along this wall is not necessary
11/26/2002	SWMU52-CS-07-1	Chlordane	1650	ug/Kg	1500	2nd South wall sample (formerly #3); performed after additional excavation	Continued Excavation
11/26/2002	SWMU52-CS-08-1	Chlordane	2090	ug/Kg	1500	3rd Floor sample (formerly samples #4 and #5) - performed after additional excavation	Continued Excavation
2/5/2003	SWMU52-CS-15-2	Chlordane	687	ug/Kg	1500	3rd South wall sample; performed after additional excavation	Further Excavation along this wall is not necessary
2/5/2003	SWMU52-CS-16-2	Chlordane	466	ug/Kg	1500	Duplicate of CS-15-2; performed after additional excavation	Further Excavation along this wall is not necessary
2/5/2003	SWMU52-CS-17-3.5	Chlordane	5160	ug/Kg	1500	4th Floor sample - performed after additional excavation	Continued Excavation
5/28/2003	SWMU52-CS-18-4.5	Chlordane	627	ug/Kg	1500	5th Floor sample - performed after additional excavation - 4-point composite sample	Further Excavation along the floor is not necessary
5/28/2003	SWMU52-CS-19-4.5	Chlordane	830	ug/Kg	1500	5th Floor sample - Duplicate of CS-18-4.5 - 4-point composite sample	Further Excavation along the floor is not necessary

Bold numbers exceed respective action levels

Residential Surface Soil Action Level = 1500 ug/Kg
Construction Total Soil Action Level = 59,000 ug/Kg
Based on Corrective Measures Study Work Plan
Group C Suspected Releases SWMUs - TEAD, Utah
Prepared by URS/Dames & Moore July 2001

Table 3 - SWMU 52D Master Bin List

Waste Stream ID: 15873

Bin #	Label #	Filled On-Site	Removal from Site	Disposal at Facility	Manifest No.	Total Weight (tons)	Non-Haz Weight	Haz Weight	TCLP Chlordane conc. (µg/L)	Hazardous?
5067	RSCAZ0232301	11/21/02	2/4/2003	2/6/2003	L3016	11.35	11.35	0	0.85	No
9084	RSCAZ0232327	11/26/02	2/4/2003	2/7/2003	L3017	16.31	16.31	0	3.33	No
5177	RSCAZ0303504	02/05/03	4/24/2003	4/25/2003	L3045	15.17	15.17	0	1.4	No
4867	RSCAZ0303505	02/05/03	4/24/2003	4/25/2003	L3044	8.69	8.69	0	ND	No
4380	RSCAZ0314802	05/28/03	8/4/2003	8/7/2003	L3048	4.63	4.63	0	987*	No
5123	RSCAZ0314801	05/28/03	8/4/2003	8/23/2003	L3049	12.54	12.54	0	901*	No

Total tons 68.69 68.69 0

Notes:

ND = None Detected (Method Detection Limit of 0.08 µg/L)

* = Results for these two bins are not TCLP, but are total chlordane in µg/Kg (see Section 3.3 of Completion Report)

Appendix A

Daily Reports, Sign-In Sheets and Field Notes

TEAD

11-18-02

- 0830 Begin pre-construction errands around
Tooele. Gather Sampling equipment
and supplies.
- 1030 Ted Nelson informs C. Sweeney that no
contact has been made w/UPRR
- 1045 USACE confirms need for only 1 day of
lead sampling w/ personal monitors.
- 1050 Still waiting for excavation permit approval.
Variance emailed to Helge Gabbert concerning
PALS at SUMU 52D.
- 1100 Bin at SUMU 52D arrived.
- 1200 Pre-construction meeting w/TEAD, USACE,
SCA: LAGUNA personnel.
- 1530 Labels placed on bin at SUMU 52D
- 1930 Excavation permit from SUMU 52D received.
Off-site.

[Signature]

TEAD - SWMU 56

11-19-02

0700 Arrive on-site. Meet w/ Cynthia Mahner
(USACE), Nevin Poncho (Ryan
(LAGUNA)

715 Health & Safety Meeting

815 Take H&E inspection complete.

830 Laguna begins grading of ground around
SWMU 56.

900 Fence pulled back for SWMU 56 access.

930 Signs placed around SWMU 56

1030 Laguna completes grading activities.

Laguna begins to remove the clean
boulders (over-burden) from hot-spot
area. Boulders are placed behind
hot-spot area.

1200 Break for lunch

1245 Excavation permit has been completed.

Larry McFarland on-site.

1300 MP Environmental on-site with

4 20-yd. bins.

MP Environmental & SCA coordinate
bin staging locations.

1400 Two bins placed in SWMU area.

11/19/02

1415 Begin excavation of hot-spot.

1430 Bin 5197 full

1445 Bin 5197 removed from SWMU

1515 Bin 5199 full

1530 Bin 5199 removed from SWMU

Additional bins have arrived and
have been staged in primary
staging area.

1630 Full bins locked. Site secured.
Off-site

Cheryl

11/20/02

0700 Arrive on-site. C. Sununu - SCA, C. Mitcher -

USACE, Nervis Pincho - Ryan Yawea - LAGUNA.

715 Health & Safety briefing conducted.

745 Rig Inspection

815 Begin loading bins w/ burned soils.

Excavation will be confined to the defined hot-spot area regardless of additional visual verification of extended area.

1030 6 Bins full, locked & labeled in staging area.

Fred Strickland - USACE on-site.

1200 Break for lunch

1235 Continue loading bins. All bins have been sampled for waste characterization.

1345 The excavation has shown defined areas of burning in center of pit. Test scoops confirm that the burned soil continues below 2' bgs to ~4' bgs in some areas. Excavation is kept to only 2' bgs until more info. is gathered concerning the actual yardage of initial excavation activities.

(next) →

1430 Decision is made to move to SWMU S2D tomorrow to complete that SWMU's excavation and sample while Helge Gabert (UDEQ) is on-site.

1550 Final bin loaded for the day.

1530 Full equipment decon on Track-Hoc. C. Sununu off-site to bring samples to lab.

Chris Ch

TEAD

11/21/02

- 0700 Arrive on-site at SWMU 52D.
Sunny, 40°F. SCA, LAGUNA i
USACE personnel on-site.
Track-Hoe has not been moved.
Waiting for United Rentals driver.
715 Health & Safety meeting for
SWMU 52D conducted.
745 Inspection of Track Hoe & Loader
completed.
830 While waiting for low-boy to
pick up track-hoe, 1 bin is
loaded.
930 Track hoe disconnected.
1000 United Rental shows up to move
track hoe to SWMU 52D area.
1030 Arrive SWMU 52D.
Review of Health & Safety subjects.
Trench near SWMU 52D is
leveled to provide staging area
for track hoe.
1100 Excavation of SWMU 52D begins.
1130 All soil in concrete culverts is
removed under recommendation of
Cynthia Mitchner, USACE.

- 1150 Flagging for fiber optic cable
discovered approximately 1' bgs.
Difficult to ascertain direction
of cable because only flagging
is found.
1200 Begin hand trenching of SWMU 52D.
1245 Cross pattern trenched approximately
3.5' bgs yields no sign of flagging
of cable.
SWMU 52D is excavated down to
1.5' bgs. (Approx. 12 yd.³)
1300 Helge Gabert - UDEQ and
Larry McFarland on-site
1330 Begin confirmation sampling of
SWMU 52D. QC sample of floor
1450 Bin 5067 at SWMU 52D
sampled as well.
1500 10W i Bin locked. Spill kit
left at SWMU 52D.
1530 Off-site. C. Swann to drop off
samples to MPE.

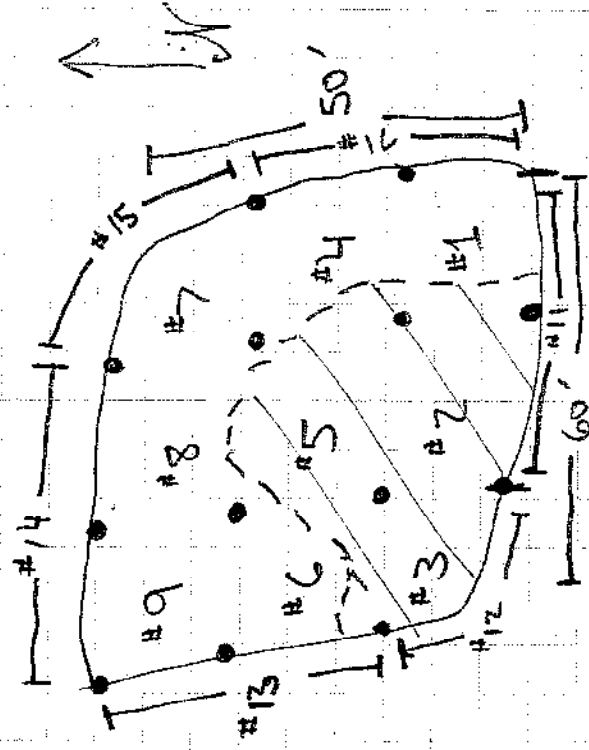
Chris Ch...

TEAD

11/22/02

- 0700 Arrive on-site at SWMU 56.
Sunny 30°F. SCA, Laguna
USACE on-site.
Truck hoe has been returned to
SWMU 56. Health & Safety meeting
conducted. Inspections completed.
0800 Begin loading of final 8 bins
from hot-spot area.
Sampling of bins conducted as
bins ~~are~~ are filled.
1200 Grids are staked out in hot
spot area.
1230 Final bin Filled. SCA has run
out of Hazardous Waste Labels.
Will get more from D. Reynolds on
Monday.
Approximately 3 bins of soil
still not removed (only stockpiled)
in hot spot area.
1330 Begin confirmation sampling of
SWMU 56 in available areas

Approximate dimensions of
SWMU 56 - Initial Excavation



QC sample in grid #2 = #10
QC sample in section #11 = #20

Approximate extents of
black (burned soil)

TEAD

11/22/02

CS Sample Summary

Floor Samples:

Grid Note:

#1
#2 QC Sample #10 + MS/MSD + QA
#3

#4
#5
#6
#7 → Not sampled (Stockpile)
#8 → Not sampled (Stockpile)
#9

Wall Samples:

Section

#11 QC sample #20
#12
#13
#14
#15 → Not sampled (Stockpile)
#16

1450 CS sampling complete.
1500 Stockpiles covered w/ plastic.
More bins: tables to arrive Monday.
1530 Samples packed. Equipment stored in Carl Cole's office.
1600 Schedule coordinated w/ Laguna: USACE.
1410 Offsite.

Christy

[Signature]

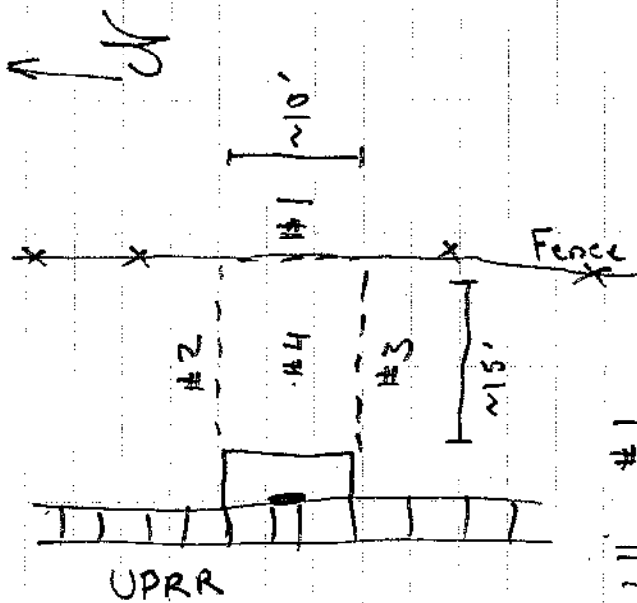
TEAD

11/21

- ADDITIONAL NOTES FOR

11/21/02

SWMU 5ZD



East Wall #1

West Wall -> No sample

South Wall #3

North Wall #2

Floor Sample #4 + MS/MSD + QA + QC Sample (#5)

Chad Kline

LEAD

11/25

1100 Arrive on-site at SWMU 56.

C. Mitchner - USACE

N. Poncho, R. Yawea - Laguna

C. Sununu - SCA

Sunny 38°F. ~4" snow on ground.

Mt. Safety meeting conducted

1230 First bin arrives from MP Env.

Begin loading bin w/ remaining soil in SWMU 56

1330 Bin is closed, waiting for remaining bins.

1400 Two additional bins arrive. One bin is sent to SWMU 52D for tomorrow's

excavation.

1450 Last bin at SWMU 56 is filled with last of soil from initial

excavation.

1400 Bin Sampled

1515 Confirmation Samples collected

from Grid #7, Grid #8 and

Wall Section #15.

1530 All bins staged in upper area.

1600 Site secured. C. Sununu off-site to

MSA.

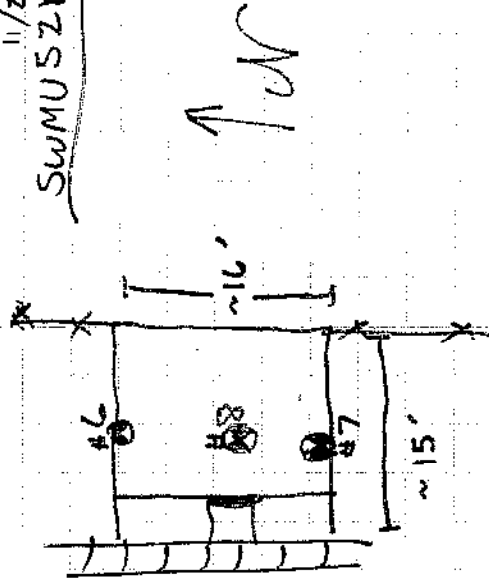


TEAD

11/26/02

- 0700 Arrive SWMUSZD
C. Mitchell - USAGE
C. Suvono - SCA
N. Pencho, R. Yawea - Laguna
0730 Health: Safety meeting
Rig Inspection
0800 Lance Cross - Level 3 Communications
arrives to monitor excavation
near fiber optic cable.
0815 Begin excavation
3' North of pit
3' South of pit
1' Deep into floor
900 Bin full, excavation complete.
No sign of cable, but most likely
withing 2' of 12" pipe
according to Lance Cross.
930 Sample Bin 9084
1000 Begin sampling North wall #6
Begin sampling South wall #7
Begin sampling Floor #8
1100 Site secured. Head over to SWMUSG

11/26/02
SWMUSZD



- 1230 Begin excavation in Grid #2 of SWMUSG
1 Foot deep in floor, 5' out in
wall area. Excavation to continue into
Grid #3 where a foot will also
be removed from floor.
1330 2 Bins full. 3 New bins have
arrived.
1500 Excavation reveals distinct black
area in wall around grid #3 but
below initial 1.5' of topsoil.
-

11/22/02

Wall of grid #3 has been previously sampled and deemed clean, but new wall of second excavation is obviously dirty. Will discuss this with TEAD: USACE to determine how to proceed in this area.

Black soil in Grid #2:3 has a distinct bottom around 3-4' bgs. Excavated wall in section #11 yields more black soil. Extends (horizontal) of black soil to south unknown. Vertical extent seems to be ~3-5' bgs in most areas with clean overburden on top.

1630 5 Bins filled today with second excavation of SWMU56.

Confirmation samples taken.

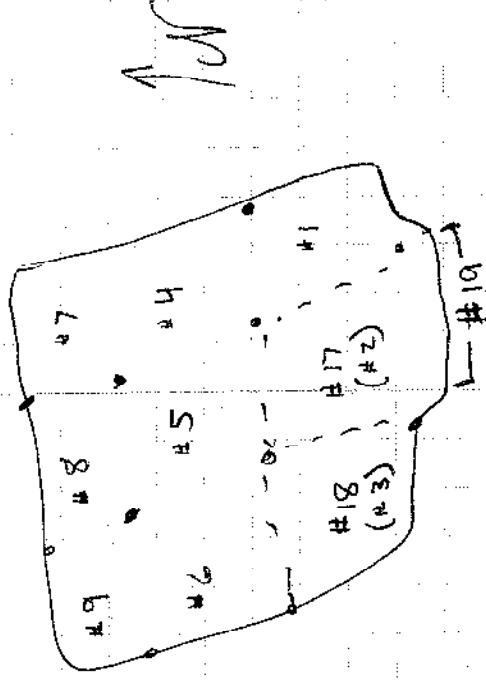
All bin samples taken.

All bins staged in upper area.

C. Surruv off-site to drop samples at MSA.

Chris [Signature]

11/22/02
SWMU56 - 2nd Round of Confirmation Sampling.



2-3-03

TEAD - SWMUSC

- 0700 SCA arrives on-site: C. Sununu, 0700
C. Mitchner USACE on-site, 1100 am
Nevin Pancho - Laguna on-site, 0700
Matt Sarrañino - Laguna on-site, 0700
Clearing sky ~ 15°F.
Health and Safety Meeting
Awaiting arrival of Excavator
1100 C. Mitchner USACE on-site
1130 Excavator arrives from Salt Lake City.
Excavator used to plow snow and
removed drifts from in front of bins.
1250 Begin removal of overburden
(boulders) from SWMU 56 excavation.
1430 Begin stockpiling of black
contaminated soil in area of
easy access for tomorrow's removal
1600 MP Environmental has dropped off
3 bins for use in the morning.
More will be delivered tomorrow.
1700 SCA, Laguna and USACE off-site.

Chris

TEAD-SWMU 56

2-4-03

- 0700 SCA on-site: C. Sununu, 0700
C. Mitchner, USACE on-site.
N. Rocha: M. Sarrancino, Laguna on-site.
Cloudy, 15° F.
Health & Safety Meeting
0730 MPE bin driver arrives on-site.
Kenn Conner, SCA on-site.
Bins are being removed by MPE at
SWMU 52D. Trucks are getting
stuck.
0800 2 Bins placed inside SWMU 56
Begin filling bins.
0820 Driver from MPE goes to SWMU 52D
to help bin removal.
0940 Second bin full. Driver has not
returned.
1100 2 Bins from SWMU 52D removed.
2 Empty bins placed at SWMU 52D.
1115 Driver returns.
Full bins removed from SWMU 56
and replaced w/ empty bins.
1150 MPE continues to arrive with
more empty bins.

1500 Soil removal proceeding as planned.
The initial stockpiling of soil
yesterday may have resulted in
removing more than 10 bins worth
of soil from the subsurface.
We may need to leave some
excavated soil behind in a covered
stockpile. There's much more black
soil than anticipated.

1700 10th bin full (~170 yds.) placed
into 10 bins today. All bins have
been locked, labeled and placed in
staging area.

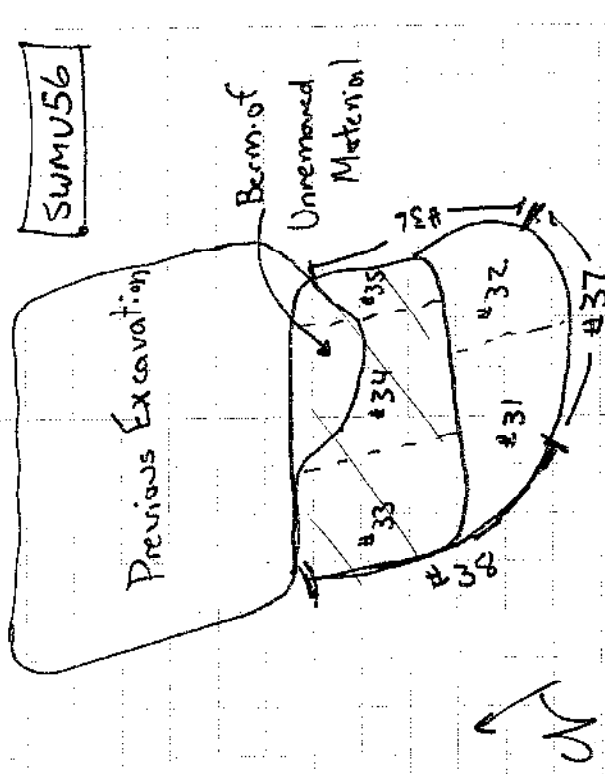
Trucks having a tough time getting
up muddy roadway.
1800 SCA off-site.

Chip

2-5-03

FEAD SWMU 56

- 0700 SCA arrives on-site: C. Sununu, C. Mitchner, USAACE on-site. N. Poncho: M. Saravancino, Laguna on-site. Health & Safety Meeting.
- 0800 Continued decon of Excavator. Awaiting Excavator to be moved to SWMU 52D.
- 1000 Awaiting Helge Gabert's (ADEQ) arrival.
- 1015 Prepare for sampling. Larry McFarland on-site w/ Kenn Conner (SCA).
- 1200 No sign of Helge. Begin Confirmation Sampling.
- 1300 Begin covering of berm w/ plastic.
- 1345 Excavator moved to SWMU 52D. Helge Gabert onsite at SWMU 56. He can not stay long. Site activities are reviewed. He has asked that all exposed material be covered w/ plastic. Helge off-site.
- 1415



Floor Samples:		Time
SWMU 56 - CS-31-4		1230
" -32-4		1240
" -33-1		1250
" -34-1		1300
" -35-1		1310
" -39-1 (QC of #34)		1350
Wall Samples:		
SWMU 56 - CS-36-2		1320
" 37-2		1330
" 38-2		1340
RMS 56-2	1700	(Rinsate Sample)

1430 Sampling Complete. Move to SWMU52D.
Lance Cross - Level 3 Communications
arrives at SWMU52D.

1450 Begin excavation of floor and
south wall at SWMU52D.

1530 Level 3 has indicated that the
lines are approximately 2' bgs.
Excavation continues under

guidance of Level 3.

1430 Excavator has struck a fiber
optic cable conduit.

- 3 conduits have been severed.
- 2 of the 3 are empty (spare)
conduits.

- 3rd conduit contains fiber optic
cable, but cable is intact.

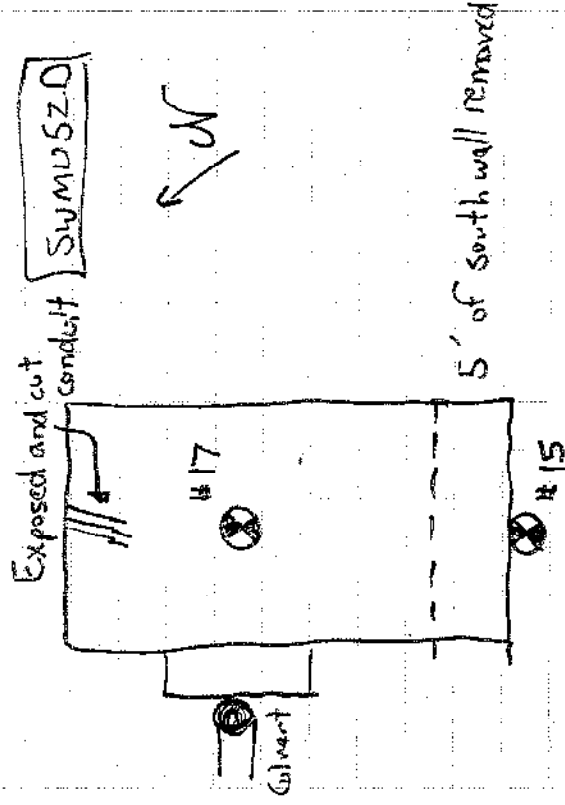
1710 Excavation continues by hand.

Level 3 confirms no major disruption
in line service. The conduits will
be repaired 1st thing tomorrow.

1730 Excavation complete.

Begin confirmation Sampling
Level 3 off-site.

1800 SCA, Laguna (USACE off-site).



Samples:

SWMU52D-CS-15-Z (South Wall) 1630
SWMU52D-CS-16-Z (QC of South Wall) 1645
SWMU52D-CS-17-Z (Floor sample) 1700
RINS52D-Z 1730 (Rinsate Sample)

Cheryl Ch...

2-6-03

SWMUSG

- 0900 SCA arrives on-site. C. Sumnu
C. Mitehner USACE on-site
N. Poncho, M. Sarrancino on-site.
Laguna has begun covering remaining
exposed areas w/ plastic sheeting
per UDEQ request.
0930 SCA returns equipment to USACE
office.
1000 SCA off-site. Laguna will meet
Level 3 and observe repair of
damaged conduits.
1200 SCA arrives Mt. States Analytical.
Drop all samples to Lab.

Chris [Signature]

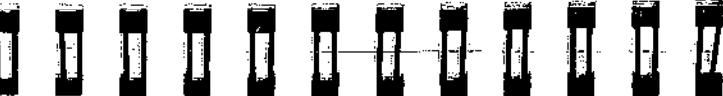
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129

4507

14-00000



030

0450

1030

0011

511

...

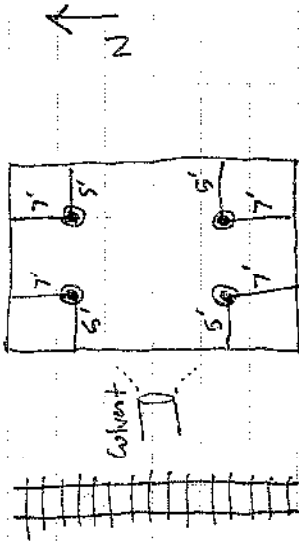
1300

1346

~10 more labels from Dean
(#d after last one we have)

- we'll leave them in his office
(training class today)

Location of 4-pt. composites:



for SWMU52D-CS-10-4.5 and
" " -19-4.5 (QC)

1400 Lunch break.

1450 Excavation complete. Taking sample of bin 4380 - ~~SWMU52D-CS-10-4.5~~ BIN4380-1. Budget deemed.

1505 Taking SWMU52D-CS-10-4.5

1530 Moving excavator for transfer to 56 tomorrow. Locking bins.

1545 Bins OK. OFF site. Bin 4380 ~40% full.

TO MSA.

BIN5123-1 1345

BIN4380-1 1450

SWMU52D-CS-10-4.5 1505

1630 Samples dropped at MSA.

1755 Finished getting supplies @ WalMart.

~~SWMU52D-CS-10-4.5~~

Atkinson

5-29-03

0700 Picking up supplies.

0745 Met w/ Dana Reynolds briefly, asked for more labels. Will leave in afternoon.

0800 52D: Excavator is being loaded in a few minutes, → 56.

0815 On site at SUMU 56. Beginning bin count and labelling.

0840 Excavator arrives at SUMU 56.

0900 Site safety mtg.

0915 Nevin is starting to pull back overburden.

0945 Nevin is making arrangements for a water truck as it is windy & dry out. Cynthia M. is on site.

per discussion w/ Nevin, Kenn, and her, we can stage bins inside clean area of excavation (northern edge) w/ plastic beneath.

1000 Nevin is building a ramp for bins. MP driver arrives on site.

1025 Cynthia: Nevin are going over to UTD bldg to see about water for truck. Going to SUMU 52D for QC sample.

1045 on site at 52-D.
 1055 Taking BC sample SWMS52D-
 CS-1A-4.5 (acc # -1B-)
 1105 off site. → 56.
 1130 On site at 56. Per Cynthia, water
 truck will be here this afternoon.
 Neil is going to try taking a
 scoop from near areas 33-35,
 but if soil is too dry, he will
 stop until water arrives. MP
 is loading bins into ex. area.
 bins # 5066, 5039.
 1240 Back on site. Soil appears
 damp -- excavation proceeding.
 1250 Bin 5066 full -- taking
 BIN 5066-1 sample.
 1250 4 more bins arrive on site --
 5216, 5108, 5093, 5109. Labelled.
 1300 Bin 3154 staged inside fence.
 1310 Bin 5039 full -- taking
 BIN 5039-1 sample.
 1330 Bin 3154 is full -- taking
 BIN 3154-1 sample.
 1345 Taking BINS 56-5.

1350 Bin 4927 staged inside fence. There
 is a problem w/ the wheel on MP's
 truck, bin cannot be lowered.
 1355 Truck appears OK now. Placing 4927.
 1410 Bin 4927 is full. Taking BIN 4927-1
 sample.
 1415 Laguna beginning dry down of
 excavator tracks; bucket. The
 unit is being switched for another
 when the water truck is being
 delivered (~1500).
 1445 Mechanic on site for MP truck --
 hydraulic lift and/or winch having
 problems again.
 1500 Truck OK now. Removing 4927,
 staging 5198 inside fence.
 1510 Staging 3164 inside fence.
 1530 Laguna is going to fill up water
 truck. I'm going to see if Dean
 left the manifests in his office.
 1630 4 new bins on site on return --
 5139, 4939, 5080, 4908.
 1640 Excavation continues as no replacement
 excavator coming today. Bin 5198
 full -- sampling BIN 5198-1.

1650 Bin 3164 is full. Sampling

BIN 3164-1.

1715 Got labels from Dean.

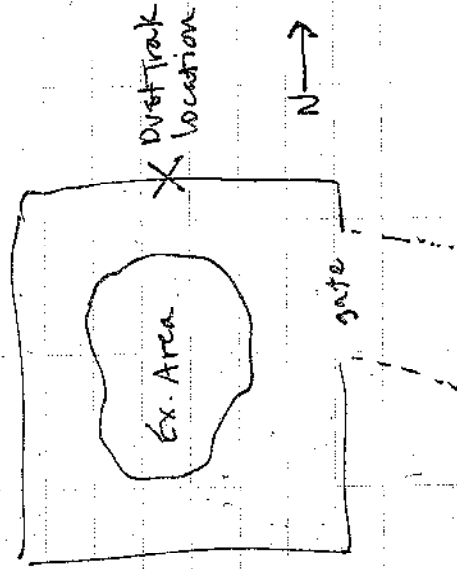
1745 Locked all 6 soil-containing bins. Laguna locked fence

gate on exit. En route to MSA.

1850 Samples dropped at MSA.

John

5:30.03, 1000



5:30.03

0700 Leaving hotel for water: ice. Capulin
is heading straight for 56.

0730 On site. Excavator is not here

yet. MP on site w/ new bin: 5028.

0745 Excavator arrives. Staging 5028

inside fence.

0800 Staging 5139 inside fence.

0820 Bin 5028 is full -- taking sample

BIN 5028-1.

0825 Taking in-scale BIN 556-6.

0830 Removing bin 5139 -- problem w/

cover (not opening). MP mechanic

en route.

0840 Staging 4867 inside fence.

0855 Staging 4880 inside fence.

0905 Bin 4867 full -- taking BIN 4867-1.

0915 Bin 4880 full -- taking BIN 4880-1.

0920 Staging 4548 inside fence.

0925 Lid to bin 4880 is stuck open.

0930 Lid fixed.

0940 Bin 4548 full -- taking BIN 4548-1.

0945 Staging bin 5084 inside fence.

1000 Bin 5084 full -- taking BIN 5084-1.

DustTrak operating at N fence line.

1005 Lid on 5084 stuck. Waiting on mechanic.

1015 Staging 4760.

1035 BIN 4760 full - taking BIN 4760-1.

1100 5084 lid still stuck -- we're waiting excavator to try prying it into position.

1110 Lid is secured. Removing bin. Have advised Nevin that some of the DustTrak reading are 70.5 mg/m^3 . Water truck will be used.

1130 Staging 4939.

1155 4939 full -- sampling BIN 4939-1.

1200 Staging 5093.

1215 Cynthia on site.

1230 Lunch.

1300 On site. Staging 4949. 93

1310 5093 full -- sampling BIN 5093-1.

1330 4949 full -- sampling BIN 4949-1.

1335 Staging 5109.

1350 5109 full -- sampling BIN 5109-1.

1355 Staging 5216.

1405 5216 full -- sampling BIN 5216-1.

1415 Staging 5063.

1425 2 more bins arrive -- 4895, 4891.

1430 5063 full -- sampling BIN 5063-1.

1440 Staging 4630.

1455 Bins 5139 and 5188 are returning to yard for repairs -- should be back either this afternoon or Monday.

1510 Bin 4630 full -- sampling BIN 4630-1.

1520 Staging 4895.

1535 Bin 4895 full -- sampling BIN 4895-1.

1555 Sampling BIN 4891-1.

1605 Nevin says this is last bin of day. Beginning decor, checking bin labels, locks.

1700 All bins are dated; Nevin & Matt will finish locking them. Going to MSA.

[Signature]

6-2-03

- 0740 On site. Picked up order; ice in town. Held safety mtg w/ Laguna, MP personnel.
- 0750 Staging 5045 inside fence.
- 0800 Staging 4905 "
- 0815 Setting up Dust Trak in previous location.
- 0825 2 bins delivered to site - prev. on site, removed for repair - 5188; 5139. Noted 1 new bin delivered late Friday or wkend: 5153.
- 0835 Sampling BIN5045-1.
- 0845 There is a problem w/ MP truck: cable has gotten jammed. Shown is returning to yard for repair.
- 0850 Sampling BIN556-7.
- 0900 Sampling BIN4905-1.
- 0915 Total of 28 bins on site, all labelled - 23 are currently full (2 staged until MP's return), 5 empties remaining.
- 0935 MP back on site.

- 0945 Staging 5188.
- 1000 Sampling BIN5188-1.
- 1010 Staging 5139.
- 1015 2 more bins on site - 4511, 4455.
- 1020 Sampling BIN5139-1.
- 1030 Laguna off site to refill water truck.
- 1055 Staging 5080.
- 1050 Laguna back on site - watering road; loading area.
- 1115 Sampling BIN5080-1. Snake encountered under truck - not a rattler. Checked it off, not killed.
- 1120 Staging 4908.
- 1130 Sampling BIN4908-1.
- 1135 Staging 5153. 2 more bins arriving on site - 4885, 4953.
- 1140 Sampling BIN5153-1.
- 1150 Staging 4511. Cynthia M. on site - discussing excavation extent w/ Laguna, MP.
- 1230 Lunch.
- 1300 On site. Switching Dust Trak to S fence line as wind has changed direction.

1310 2 more bins on site -- 3114,
 3118. Blue, 40 yds.
 1330 Sampling BIN 4951-1.
 1335 2 more bins arrive -- 4957, 4951.
 1340 Sampling ~~4951~~ BIN 4955-1.
 1350 Staging 4953.
 1405 Sampling BIN 4953-1.
 1415 Staging 4985.
 1425 Sampling BIN 4985-1.
 1440 Staging 3114. 2 more bins
 arrive -- 4955, 4969.
 1450 Sampling BIN 3114-1.
 1500 Staging 3116. Larry McFarland
 on site to observe progress.
 1515 Sampling BIN 3118-1.
 1530 Staging 4969.
 1550 Sampling BIN 4969-1.
 1600 Staging 4951. 2 new bins
 arrive -- 3116, 5142.
 1615 Sampling BIN 4951-1.
 1620 Staging 4957.
 1635 Sampling BIN 4957-1.
 1645 Staging 3116 and 5142 for
 tomorrow morning. Laguna
 is locking bins.

1715 Cleanup for day finished. Locking
 gate to site.
 1720 2 new bins arrive -- rentals --
 R 18195 ML & R 18304 ML. Will
 label tomorrow (out of labels).
 1730 Bins locked, heading to MSA.
 1905 Dropping samples at MSA after
 stopping at Wal-Mart for ice,
 replacement cooler.
 2005 Back in Tobe, stopping at True
 Value for soap.

After

6.3.03

- 0700 Emailing daily reports, taking bin list to Dean.
- 0730 Stopping for water; ice.
- 0745 Picked up labels from Dean's office, left floppy disk w/ bin list.
- 0800 on site at S6. Laguna has partially filled 2 bins from yesterday. Shawn & MP is in SLC to help get rental bins out here, ETA ~ 0900.
- 0830 Sampling BIN3116-1.
- 0835 Sampling RWS56-8.
- 0840 Sampling BNS142-1.
- 0855 Setting up DustTrak on N fence line. Water has already been applied this morning.
- 0900 2 more bins noted on-site: 3119 and 3115.
- 0915 Bin went: 7 empties (2 filled this morning), 37 filled.
- 0925 Moving southern signs ~25 y more to S to accommodate add'l bins. 2 more bins on site: R2227ML, R18201ML.

- 0930 1 more bin on site: R1906ML.
- 0945 Further excavation to the SE revealed continuing dark soil.
- 1000 Staging R1906ML.
- 1015 2 more bins on site: R18011ML and R18244ML.
- 1020 Staging 3119.
- 1025 Sampling ^{on} R1906ML-1.
- 1035 Sampling BIN3119-1.
- 1040 Staging R18244ML.
- 1045 There's a problem with the hydraulic jack (for lid) on bin R18244ML (vertical). Can't open.
- 1115 Staging 4455. R18244ML is being removed -- pivot pin on jack handle is bent, needs replacement.
- 1120 Sampling BIN4955-1.
- 1130 Staging R18011ML. 2 more bins arrive -- 4329 and R2230ML.
- 1140 Sampling BIN R18011ML-1.
- 1155 Staging R18201ML.
- 1300 Sampling BIN R18201ML-1.
- 1305 R18244ML is apparently fixed, staged inside fence.

1310 Sampling BIN R18244ML-1.

1315 6 new bins on site - R1937ML,
026028, R18375ML, R18140ML,
R18071ML, R18138ML.

1335 Staging R1937ML.

1340 Sampling BIN R1937ML-1.

Staging R2230ML.

1345 Sampling BIN R2230ML-1.

1355 Staging R18140ML.

1410 Sampling BIN R18140ML-1.

1415 Staging 4329.

1430 Sampling BIN 4329-1.

1440 Staging R18071ML.

1455 Sampling BIN R18071ML-1. Note:

Various parts: objects are
surfacing in excavation -- I have
observed an old crowbar, a steering
wheel, the perforated barrel of
a gun (machine gun?), and
some unidentified metal scraps.

1510 4 more bins on site -- R18173ML,
R1911ML, R22007ML, R22003ML.

This will be end of my labels.

1515 Staging 026028.

1535 Sampling BIN 026028-1.

1540 Staging R18195ML. Matt off
site to refill water truck as we
had a max of 0.774 at 1530.

1550 Sampling BIN R18195ML-1.

1610 Staging R18375ML.

1620 Matt back on site, watering.

1630 Sampling BIN R18375ML-1.

1645 Done for day. MP is leaving site.

More bins arriving -- need labels
tomorrow.

1655 Cleanup inside dome. Fence locked.

1705 All bin dated, locked. Taking

samples to MSA.

1805 Samples dropped @ MSA. Need
to get gloves (auto store), → done.

[Signature]

6-4-03

- 0700 Water, ice, → Dean's office.
- 0730 Got labels from Dean, heading to SMMU 56.
- 0745 On site. Laguna & MP on site, also Cynthia & Fred Strickland (PM). Labelled 2 bins already staged, held safety mtg.
- 0800 Sampling BIN 274724-1.
- 0810 Sampling BIN R18308 ML-1.
- 0820 Staging 274723.
- 0830 DredTrack in place. on W fence line, no excavation is very close to S fence line.
- 0840 Sampling RINS 56-9.
- 0845 Sampling BIN 274723-1.
- Staging R18173 ML. Matt off site to fill water truck.
- Note: today was 1st day that water was applied to ex. area, not just roadway & loading area.
- 0900 Sampling BIN R18173 ML-1.
- staging 274724.

- 0920 Sampling BIN 274724-1.
- 0925 Staging R18304 ML.
- 0940 Sampling BIN R18304 ML-1.
- 0945 Staging R2803 ML. DredTrack moved to E fence line as wind has started from N and W.
- 0950 Message for Helge Gabert of UDEQ -- conf. Samples will be taken tomorrow after all. Left cell # and who mess. w/ receptionist.
- 0955 Sampling BIN R2803 ML-1.
- 1005 Staging R1911 ML.
- 1015 Sampling BIN R1911 ML-1.
- 1025 Staging R2807 ML.
- 1035 Sampling BIN R2807 ML-1.
- 1040 Staging R18138 ML.
- 1055 Sampling BIN R18138 ML-1.
- 1105 Staging R2227 ML.
- 1115 Sampling BIN R2227 ML-1.
- 1125 Staging 274730. lost 2 bins are now on site -- C29 and R1924 ML.
- 1140 Sampling BIN 274730-1. Notified Laguna of high dust result. lost bin before lunch, with water after.

1200 Lunch.

1230 Back on site. Water to be sprayed over road, excavation.

1245 Starting DustTrak again.

1250 Staging C29.

1255 Sampling BIN 3115-1.

1310 Sampling BIN C29-1.

1335 Sampling BIN 274705-1.

1400 Sampling BIN R1924ML-1.

1410 Spoke w/ Hodge -- he is in a training class all day tomorrow, but he said to go ahead and conf. sample w/o him. I told him the approx. areas and #s of samples.

1440 Sampling BIN 274722-1.

1510 Sampling BIN 274706-1.

1515 Cynthia off site to other SWMU.

Navin is tidying up ex. edges.

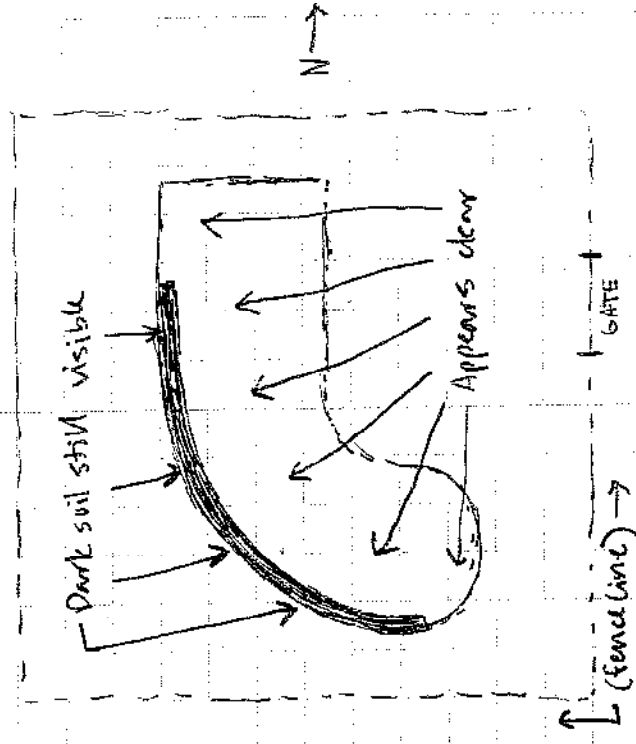
1540 Cleanup finished. Going up to start locking bins.

1600 All bins locked & dated.

1605 To Walmart, then MSA.

1730 Samples dropped @ MSA.

Approx. Area of Excavation 6-4-03

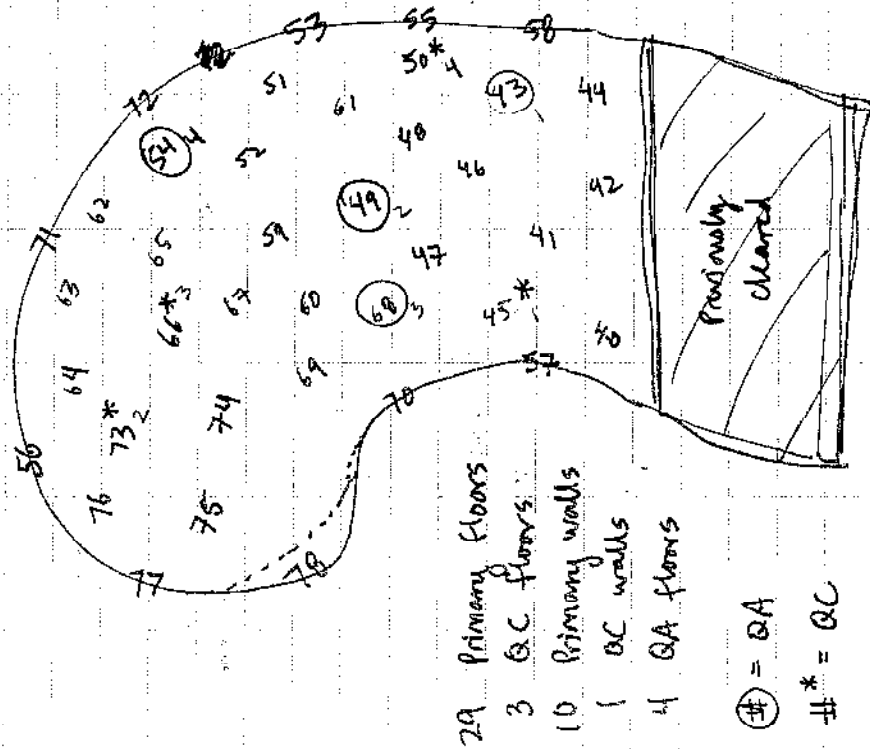


1930 Daily reports emailed to Roy and Cynthia. BM list completed.

AMS

6-5-03

- 0700 On site. setting up down area.
- 0710 Cynthia on site.
- 0725 Kevin comes on site. Also Jerry (sp?) of MPE.



- 1000-1545 Sampling as mapped on previous page.
- 1630 On-site at S2D for survey info.
- 1650 Ziplocks are leaking. Drying sample labels, rebagging (Waldman).
- 1930 Samples dropped @ MSA.

[Signature]

QA-1	43
QA-2	49
QA-3	68
QA-4	54

Σ0.9.9

0730 On site @ S2D. Newm, Matt,
i Cynthia on site. Waiting for
surveyors.

0030 Doug Kinsmen on site (Ensign mgr.) w/ 2 surveyors. Gave location of brass cap by RR overpass, previous site drawings & no references.

Surveyors starting setup. Using brass cap to set up 2 tripods, 1 to N and 1 to S of site.

0940 Surveyors are done and leaving site. Nwin is having soil delivered.

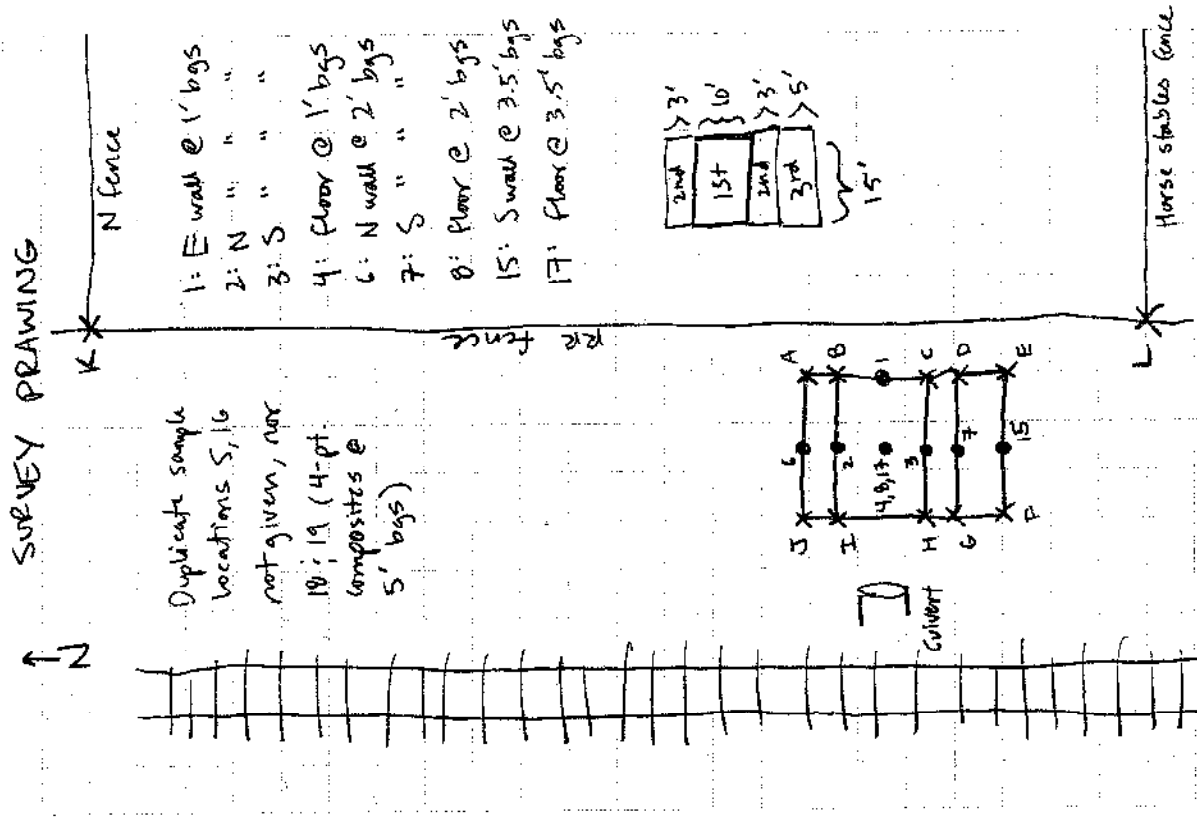
1000 Going to UPS QA samples to STL.

1030 Samples vps'd.

1045 Back on site at 52D. They're trying to find a truck to deliver soil & gravel.

1235 Met Staker driver at gate.

1245 Delivering 1st load to 52-D.
Backfilling and tamping
is starting



1340 Next load of soil delivered.

Continuing backfill.

1430 2 drivers now for Staker.

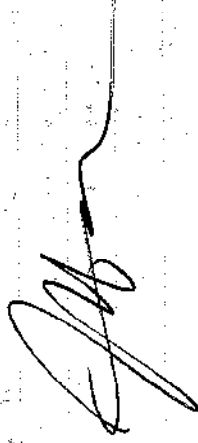
Delivering gravel & soil. Nevin is mixing the two in.

1520 Escorting Staker driver to 56

to drop gravel since we have enough at 520. Gravel dropped outside fence next to gate.

1600 Leaving site. Ex. area has been refilled & tamped.

Laguna is going to rebuild ditch and we water truck from 56 to soak backfill.



SCA

ENVIRONMENTAL, INC.

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Oakland, CA 94612
(510) 645-6200; FAX: 839-6200

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☐ 9920 S. La Cienega Blvd, Ste. 722
Los Angeles, CA 90301
(310) 258-0460; FAX: 258-0260

Project: **TEAD SWMU 52**SCA Project No.: **B-5063**

Floor:

Zone:

Inspected By: **C.Sununu**Date: **11/21/02**

Reviewed By: K. Conner

Date:

Copies Sent To:

Owner: _____

Contractor: _____

SCA: _____

Others: _____

DAILY REPORT

SITE CONDITIONS:

Site in good order. Trench flattened out in order to stage Track Hoe.

PERSONS ON-SITE:

Chris Sununu - SCA Environmental, Inc.
Cynthia Mitchner - USACE
April Fontaine - USACE
Larry McFarland - TEAD
Helge Gabert - UDEQ

Nevin Poncho - Laguna Construction
Ryan Yawea - Laguna Construction

EQUIPMENT ON-SITE:

Track Hoe Excavator
Hand Digging Equipment
Disposal Bin
Sampling Equipment

MONITORING:

No personal monitoring conducted today.

WORK COMPLETED ON-SITE:

- 1) Loading and sampling of 1 bin at SWMU 55.
- 2) Excavation of SWMU 52D.
- 3) Confirmation Sampling of SWMU 52D.
- 4) Sampling of 1 bin at SWMU 52D.

SAMPLES COLLECTED:

SAMPLE ID	SAMPLE LOCATION	SAMPLE DESCRIPTION
BIN5067-1	Bin 5067	Waste Characterization Sample (SWMU 52D)
BIN4994-1	Bin 4994	Waste Characterization Sample (SWMU 56)
SWMU52D-CS-01-1	East wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-02-1	North wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-03-1	South wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-04-1	Floor of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-05-1	Floor of Excavation	Confirmation QC Sample (SWMU52D)
SWMU52D-CS-04-1-MS	Floor of Excavation	Confirmation MS Sample (SWMU52D)
SWMU52D-CS-04-1-MSD	Floor of Excavation	Confirmation MSD Sample (SWMU52D)
SWMU52D-CS-04-1-QA	Floor of Excavation	Confirmation QA Sample (SWMU52D)
RINS52D-1	Equipment	Rinsate Sample

SAFETY:

Initial Health and Safety Meeting conducted.

CONTROVERSIAL MATTERS:

Fiber Optic cable flagging discovered ~1' bgs. Hand trenching conducted to ~3.5' bgs. No sign of cable or additional flagging. SCA will contact cable company list on flagging.

FURTHER ACTION NECESSARY:

Completion of hot-spot removal at SWMU 56
Confirmation samples to be taken of initial excavation at SWMU 56.
Bin sampling to be completed at SWMU 56.
Survey and backfilling of excavation area to be completed.

QC REPRESENTATIVE SIGNATURE: _____



11/21/02

ATTACHMENTS: Health and Safety Sign in Sheet, Field Notes, Copy of COC

SCA

ENVIRONMENTAL, INC.

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(510) 645-6200; FAX: 839-6200

□ 1390 Market Street, Ste. 410
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□ 9920 S. La Cienega Blvd, Ste. 722
Los Angeles, CA 90301
(310) 258-0460; FAX: 258-0260

Project: **TEAD SWMU 56/SWMU 52D**

SCA Project No.: **B-5064**

Floor:

Zone:

Inspected By: **C.Sununu**

Date: **11/26/02**

Reviewed By: K. Conner

Date:

Copies Sent To:

Owner: _____

Contractor: _____

SCA: _____

Others: _____

DAILY REPORT

SITE CONDITIONS:

Site in good order.

PERSONS ON-SITE:

Chris Sununu – SCA Environmental, Inc.
Ryan Yawea – Laguna Construction
Cynthia Mitchner - USACE

Nevin Poncho – Laguna Construction
Lance Cross – Level 3 Communication

EQUIPMENT ON-SITE:

Track Hoe Excavator
Hand Digging Equipment
Disposal Bins
Sampling Equipment

MONITORING:

No personal monitoring conducted today.

WORK COMPLETED ON-SITE:

- 1) Second round of excavation and confirmation sampling at SWMU 52D. Excavation and sampling completed in North Wall, South Wall and Floor. One (1) bin loaded full, sampled, locked, and stored on-site.
- 2) Second round of excavation and confirmation sampling at SWMU 56. Excavation (1 foot vertical) and sampling completed in floor of Grid #2, Grid #3. Completed 5-foot horizontal excavation of Wall Section #11. Sampling of new wall section (#19). Five (5) bins loaded full, sampled, locked, and stored on-site.

SAMPLES COLLECTED:		
SAMPLE ID	SAMPLE LOCATION	SAMPLE DESCRIPTION
BIN9084-1	Bin 9084	Waste Characterization Sample (SWMU 52D)
BIN4707-1	Bin 4707	Waste Characterization Sample (SWMU 56)
BIN8307-1	Bin 8307	Waste Characterization Sample (SWMU 56)
BIN2227-1	Bin 2227	Waste Characterization Sample (SWMU 56)
BIN18036-1	Bin 18036	Waste Characterization Sample (SWMU 56)
BIN2618-1	Bin 2618	Waste Characterization Sample (SWMU 56)
SWMU52D-CS-06-1.25	New North wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-07-1.25	New South wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-08-2.5	New Floor of Excavation	Confirmation Sample (SWMU52D)
SWMU56-CS-17-3	New Floor of Grid #2	Confirmation Sample (SWMU56)
SWMU56-CS-18-3	New Floor of Grid #3	Confirmation Sample (SWMU56)
SWMU56-CS-19-1.5	New Wall Section South of Grid #2	Confirmation Sample (SWMU56)

SAFETY:

Health and Safety Meeting conducted.

CONTROVERSIAL MATTERS:

SWMU 56 - Dark soil clearly extends beyond the excavated area in SWMU 56. Decisions as to how to proceed with additional excavation will be discussed. Dark soil appears to extend south of Grid #2 and Grid #3. Most dark soils begin below the 1-1.5 feet of overburden in SWMU 56. Depth of dark soil appears to be approximately 3-5 feet bgs.

SWMU 52D - Excavation has proceeded about as far as possible with heavy equipment. Any additional excavation into the floor of SWMU 52D may have to be done with hand digging equipment due to Level 3 Communication's Fiber Optic Line.

FURTHER ACTION NECESSARY:

Completion of dark soil removal at SWMU 56.
Possible continued excavation of SWMU 52D.
Survey and backfilling of excavation area to be completed.

QC REPRESENTATIVE SIGNATURE:  12-1-02

ATTACHMENTS: Health and Safety Sign in Sheet, Field Notes, Copy of COC, Bin List

<h1>SCA</h1> <p>ENVIRONMENTAL, INC.</p> <p><input checked="" type="checkbox"/> 334 19th St. Oakland, CA 94612 (510) 645-6200; FAX: 839-6200</p> <p><input type="checkbox"/> 1390 Market Street, Ste. 410 San Francisco, CA 94102 (415) 703-8500; FAX: 703-0701</p> <p><input type="checkbox"/> 9920 S. La Cienega Blvd, Ste. 722 Los Angeles, CA 90301 (310) 258-0460; FAX: 258-0260</p>	Project: TEAD SWMU 56/SWMU 52D		Copies Sent To:
	SCA Project No.: B-5064/B-5063		Owner: _____
	Floor: _____	Zone: _____	Contractor: _____
	Inspected By: C.Sununu	Date: 2/5/03	SCA: _____
Reviewed By: K. Conner	Date: _____	Others: _____	

DAILY REPORT

SITE CONDITIONS:
Site in good order.

PERSONS ON-SITE:
Chris Sununu – SCA Environmental, Inc. Matt Sarracino – Laguna Construction Cynthia Mitchener - USACE
Nevin Poncho – Laguna Construction Lance Cross – Level 3 Communication

EQUIPMENT ON-SITE:
Track Hoe Excavator Hand Digging Equipment Disposal Bins Sampling Equipment

MONITORING:
No personal monitoring conducted today.

WORK COMPLETED ON-SITE:

- 1) Third round of excavation and confirmation sampling at SWMU 52D. Excavation and sampling completed in South Wall and Floor. Two (2) bins loaded, sampled, locked, and stored on-site.
- 2) Third round of confirmation sampling at SWMU 56. Sampling completed in floor, wall of new areas (see sample list below). 10 bins remain loaded and locked on site. Berm of remaining excavated material covered with plastic sheeting per Helge Gabert's request.

SAMPLES COLLECTED:

SAMPLE ID	SAMPLE LOCATION	SAMPLE DESCRIPTION
BIN5177-1	Bin 5177	Waste Characterization Sample (SWMU 52D)
BIN4867-1	Bin 4867	Waste Characterization Sample (SWMU 52D)
SWMU52D-CS-15-2	New South wall of Excavation	Confirmation Sample (SWMU52D)
SWMU52D-CS-16-2	QC of South wall (15)	Confirmation Sample (SWMU52D)
SWMU52D-CS-17-3.5	New Floor of Excavation	Confirmation Sample (SWMU52D)
RINS52D-2	Equipment rinseate	Equipment rinseate
SWMU56-CS-31-4	New Floor of Grid #31	Confirmation Sample (SWMU56)
SWMU56-CS-32-4	New Floor of Grid #32	Confirmation Sample (SWMU56)
SWMU56-CS-33-1	New Floor of Grid #33	Confirmation Sample (SWMU56)
SWMU56-CS-34-1	New Floor of Grid #34	Confirmation Sample (SWMU56)
SWMU56-CS-35-1	New Floor of Grid #35	Confirmation Sample (SWMU56)
SWMU56-CS-36-2	New Wall East of Grid #32, 35	Confirmation Sample (SWMU56)
SWMU56-CS-37-2	New Wall South of Grid #31, 32	Confirmation Sample (SWMU56)
SWMU56-CS-38-2	New Wall West of Grid #31, 33	Confirmation Sample (SWMU56)
SWMU56-CS-39-1	QC of Floor of Grid #34	Confirmation Sample (SWMU56)

SAFETY:

Health and Safety Meeting conducted.

CONTROVERSIAL MATTERS:

SWMU 56 – Dark soil clearly extends beyond the excavated area in SWMU 56. Decisions as to how to proceed with additional excavation will be discussed. Most dark soils begin below the 1-1.5 feet of overburden in SWMU 56. Depth of dark soil appears to be approximately 3-5 feet bgs. Berm of over-excavated material remains in excavation area, covered with plastic sheeting.

SWMU 52D – Level 3 Communication's fiber optic line encountered during excavation. 3 conduits severed – 2 of 3 are empty (spares), 1 has casing severed, but cables inside are intact. Level 3 confirms no major disruption in service. Conduits will be repaired tomorrow.

FURTHER ACTION NECESSARY:

Possible continued excavation at SWMU 56.
Possible continued excavation of SWMU 52D.
Survey and backfilling of excavation area to be completed.

QC REPRESENTATIVE SIGNATURE: _____

ATTACHMENTS: Health and Safety Sign in Sheet, Field Notes, Copy of COC , Bin List



ENVIRONMENTAL, INC.

PROJECT: TEAD SWMU 52D
COMPLETED BY: JEDD PARR

SCA PROJECT #: B-5063
DATE: 5/28/03

DAILY REPORT

SITE CONDITIONS:

Site in good order.

PERSONS ON SITE:

SCA - Kenn Conner, Jedd Parr
Laguna - Nevin Poncho, Matt Sarracino
USACE - Cynthia Mitchner
Level III Communications - Lance Cross

EQUIPMENT ON SITE:

Track hoe excavator
Hand digging equipment
Disposal bins
Sampling and decon equipment

MONITORING:

No personal monitoring conducted today.

WORK COMPLETED ON-SITE:

Further vertical excavation, approximately 1' deeper (to a depth of ~4.5 feet). No horizontal expansion of the dig. 2 bins loaded, locked, and left on-site. Bin and confirmation samples taken and transported to MSA of Salt Lake City.

SAMPLES COLLECTED:

Sample ID	Sample Location	Sample Description
BIN5123-1	Bin 5123	Waste Characterization Sample
BIN4380-1	Bin 4380	Waste Characterization Sample
SWMU52D-CS-18-4.5	4-point floor composite	Confirmation Sample

SAFETY:

Health and safety meeting conducted.

CONTROVERSIAL MATTERS:

Hand digging was performed for most of the day as the fiber optic cables appear to change depth and horizontal position below floor. Excavator used where deemed safe by Lance Cross. No further contact or damage to cables was observed.

FURTHER ACTION NECESSARY:

Further excavation may be necessary depending on lab results of confirmation sample. Survey and backfilling of area still to be completed.



ENVIRONMENTAL, INC.

PROJECT: TEAD SWMU 52D AND 56
COMPLETED BY: JEDD PARR

SCA PROJECT #: B-5063, B-5064
DATE: 5/29/03

DAILY REPORT

SITE CONDITIONS:

Both sites in good order.

PERSONS ON SITE:

SCA - Jedd Parr
Laguna - Nevin Poncho, Matt Sarracino
USACE - Cynthia Mitchner
MPE - Shawn Matthews (driver), mechanic

EQUIPMENT ON SITE:

Track hoe excavator
Loader
Water truck
Disposal bins
Sampling and decon equipment

MONITORING:

No personal monitoring conducted today.

WORK COMPLETED ON-SITE:

Further excavation of dark soil from S, SE, and SW walls at SWMU 56. No confirmation samples taken as dark soil is clearly still present. 6 bins filled, locked, and left on-site outside fence. Bin samples taken and transported to MSA of Salt Lake City.

QC confirmation sample taken from floor of SWMU 52D. Sample transported to MSA with samples from SWMU 56.

SAMPLES COLLECTED:

Sample ID	Sample Location	Sample Description
BIN5066-1	Bin 5066	Waste Characterization Sample
BIN5039-1	Bin 5039	Waste Characterization Sample
BIN3154-1	Bin 3154	Waste Characterization Sample
RINS56-5	N/A	Equipment Rinseate Sample
BIN4927-1	Bin 4927	Waste Characterization Sample
BIN5198-1	Bin 5198	Waste Characterization Sample
BIN3164-1	Bin 3164	Waste Characterization Sample
SWMU52D-CS-19-4.5	4-point floor composite	QC Confirmation Sample

SAFETY:

Health and safety meeting conducted.

CONTROVERSIAL MATTERS:

Water truck deemed necessary for dust control as weather is dry and windy. DustTrak dust monitoring will begin tomorrow when equipment arrives. Hydraulic lift and/or winch problems with MP truck result in downtime while mechanic comes out to site.

FURTHER ACTION NECESSARY:

Further excavation at SWMU 56 is definitely necessary, as dark soil is clearly present. Confirmation samples will be taken when dark soil is no longer visible. Survey and backfilling of area still to be completed.

Further excavation at SWMU 52D may be necessary depending on confirmation sampling results. Survey and backfilling still to be completed.



ENVIRONMENTAL, INC.

PROJECT: **TEAD SWMU 52D**
COMPLETED BY: JEDD PARR

SCA PROJECT #: **B-5064**
DATE: 6/6/03

DAILY REPORT

SITE CONDITIONS:

Site in good order.

PERSONS ON SITE:

SCA - Jedd Parr
Laguna - Nevin Poncho, Matt Sarracino
USACE - Cynthia Mitchener
Ensign (surveyors) – Doug Kinsmen, 2 employees
Staker (soil/gravel truckers) – 2 drivers

EQUIPMENT ON SITE:

Track hoe excavator
Soil tamper
Disposal bins

MONITORING:

No personal or dust monitoring conducted today.

WORK COMPLETED ON-SITE:

SWMU 52D sample locations and excavation boundaries were surveyed by Ensign (contact name is Doug Kinsman). Excavation area was then backfilled with soil and gravel. Water was applied to soil for dust control. Soil was tamped down for stability. Caution tape was used as underground flagging above the fiber optic cables (OK per Lance Cross of Level III, who could not be on site today but gave the go ahead).

SAFETY:

Brief health and safety discussion held while surveyors were setting up control points and locating county marker.

CONTROVERSIAL MATTERS:

There was a delay of several hours while we were waiting for soil and gravel to arrive. Staker promised a truck yesterday but had problems finding one today. They later supplied 2 drivers to speed things up.

FURTHER ACTION NECESSARY:

No further action is necessary as survey and backfilling have been completed. Survey drawing will be ready in 1-2 weeks and delivered as a .dwg file with all points given a northing, easting, and elevation location.

Sign In for PQC Meeting
11/18/02

<u>Name</u>	<u>Company</u>	<u>Phone</u>	<u>email</u>
Kenn Conner	SCA	510 645 6200 cell 510 543 7190	Kconner@sca-enviro con
Cynthia Mitchener	USACE	(916) 557-6745 office TEAD cell (916) 201-2606	Cynthia.b.mitcher @usace.army.mil
Larry McFarland	TEAD	(435) 833-3235	mcFarland@emh2.foote.army.m
Nevin Porcho	L.C.C.	(505) 280-4008	
CHRIS SUNUNU	SCA	(510) 645-6236 x401 (cell)	CSununu@sca-envi con
Carl Cole	USACE	(801) 971-1704	colec@EM#2.foote2.m

SAFETY BRIEFING AND ATTENDANCE SHEET

Subject:	Health: Safety Meeting - SWMU 52D		
Date:	11/21/02	Hours:	0700 - 1600
Summary:	Physical Hazards (Train, Heavy Equip, Cold Stress), Level D PPE, Chlordane Hazards, Decon Procedures		
Training Materials Provided:	Health: Safety Plan, Level D PPE, MSDS Sheets		

[illegible]

SAFETY BRIEFING AND ATTENDANCE SHEET

Subject:	Health & Safety Briefing - SWMU52D	
Date:	11/26/02	Hours: 0700
Summary:	Excavation Hazards (Fiber Optic Cable), Heavy Equip Hazards, Chlordane Levels in excavation (~5 ppm)	
Training Materials Provided:	Health & Safety Plan, Level D PPE	

[illegible]

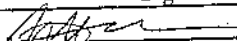


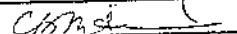
SAFETY BRIEFING AND ATTENDANCE SHEET

Subject: SWMU 56	
Date: 2/5/03	Hours: 0700 - 1500
Summary: Decon of excavator, Sampling, Cold? Ice	
Training	
Materials	
Provided:	

[illegible]

SAFETY BRIEFING AND ATTENDANCE SHEET

Subject:	SWMU 52D Kickoff Safety Meeting		
Date:	5/28/03	Hours:	1
Summary:	Safety issues: heat, wildlife, railroad, exposure effects		
Training Materials Provided:			

Attendee	Signature
Jedd Parr, SCA	
Nevin Poncho } Lagrone	Nevin Poncho
Mark Sarraceno } Lagrone	
Kenn Conner (SCA)	
Cynthia Mitchem	

SAFETY COMPLIANCE AGREEMENT FORM

All personnel assigned work at the site are required to read this SSHP (and addenda, if necessary). The following site personnel have reviewed the above plan, are familiar with its provisions, and understand the potential hazards and required personal protection.

[illegible]

Appendix B

Laboratory Data

November 25, 2002

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU52D

Work Order: 0211190

Project ID: B-5063

Dear Kenn Conner,

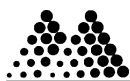
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0211190-1 and contains 15 pages of information for the 7 samples submitted to MSA on Thursday, November 21, 2002. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 15. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager



Sample Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0211190-01A	SWMU52-CS-01-1	SWMU52D-CS-01	Soil	11/21/02
0211190-01B	SDG: SCA-05			12/10/02
0211190-02A	SWMU52-CS-02-1	SWMU52D-CS-02	Soil	11/21/02
0211190-03A	SWMU52-CS-03-1	SWMU52D-CS-03	Soil	11/21/02
0211190-04A	SWMU-52D-CS-04-1	SWMU52D-CS-04	Soil	11/21/02
0211190-05A	SWMU-52D-CS-05-1	SWMU52D-CS-05	Soil	11/21/02
0211190-06A	SWMU52D-CS-04-1-MS	SWMU52D-CS-04	Soil	11/21/02
0211190-07A	SWMU52D-CS-04-1-MSD	SWMU52D-CS-04	Soil	11/21/02



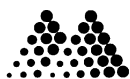
Holding Time Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

Sample ID	Client Sample ID	Date Collected						
0211190-01A	SWMU52-CS-01-1	11/21/02 13:30						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 15:52	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 15:52	40	
0211190-02A	SWMU52-CS-02-1	11/21/02 13:40						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 16:19	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 16:19	40	
0211190-03A	SWMU52-CS-03-1	11/21/02 13:35						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 16:46	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 16:46	40	
0211190-04A	SWMU-52D-CS-04-1	11/21/02 13:45						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 13:59	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 17:13	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 13:59	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 17:13	40	
0211190-05A	SWMU-52D-CS-05-1	11/21/02 13:50						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 17:40	40	
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 17:40	40	
0211190-06A	SWMU52D-CS-04-1-MS	11/21/02 13:45						
		Leachate						
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	

* - The recommended holding time was exceeded



Holding Time Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

Sample ID	Client Sample ID	Date Collected					
Pesticides (USACE)		11/21/02 16:00	14	11/22/02 14:26	40		
Pesticides (USACE)		11/21/02 16:00	14	11/22/02 14:26	40		
0211190-07A	SWMU52D-CS-04-1-MSD	11/21/02 13:45					
Leachate							
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 15:25	40
Pesticides (USACE)				11/21/02 16:00	14	11/22/02 15:25	40

* - The recommended holding time was exceeded

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-01A
Client Sample ID: SWMU52-CS-01-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	938	20	500	µg/Kg	10	11/22/02 15:52	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	127		65-135	% Recovery	10	11/22/02 15:52	PWK
Tetrachloro-m-xylene	105		65-135	% Recovery	10	11/22/02 15:52	PWK

Note for 11/22/02 15:52 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285 11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-02A
Client Sample ID: SWMU52-CS-02-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	5860	200	5000	µg/Kg	100	11/22/02 16:19	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	169 S (2r)		65-135	% Recovery	100	11/22/02 16:19	PWK
Tetrachloro-m-xylene	135 S (2r)		65-135	% Recovery	100	11/22/02 16:19	PWK

Note for 11/22/02 16:19 analysis: Sample diluted due to high levels of target compounds.

2r: Surrogate spike recovery was outside acceptable limits due to dilution

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285 11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-03A
Client Sample ID: SWMU52-CS-03-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	3710	40	1000	µg/Kg	20	11/22/02 16:46	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	131		65-135	% Recovery	20	11/22/02 16:46	PWK
Tetrachloro-m-xylene	117		65-135	% Recovery	20	11/22/02 16:46	PWK

Note for 11/22/02 16:46 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285 11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-04A
Client Sample ID: SWMU-52D-CS-04-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	2610	40	1000	µg/Kg	20	11/22/02 17:13	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	133		65-135	% Recovery	20	11/22/02 17:13	PWK
Tetrachloro-m-xylene	118		65-135	% Recovery	20	11/22/02 17:13	PWK

Note for 11/22/02 17:13 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285 11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-05A
Client Sample ID: SWMU-52D-CS-05-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	2390	40	1000	µg/Kg	20	11/22/02 17:40	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	128		65-135	% Recovery	20	11/22/02 17:40	PWK
Tetrachloro-m-xylene	114		65-135	% Recovery	20	11/22/02 17:40	PWK

Note for 11/22/02 17:40 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285 11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 465-9941 Fax: (510) 465-9109
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190
Lab Sample ID: 0211190-06A
Client Sample ID: SWMU52D-CS-04-1-MS
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285

11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

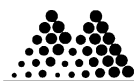
J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

10



Mountain States Analytical, LLC

1645 West 2200 South · Salt Lake City, Utah 84119 · 800-973-6724

Analytical Report

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 465-9941 Fax: (510) 465-9109

Project: TEAD SWMU52D

Project ID: B-5063

Purchase Order:

Report Number: 0211190-1

Date Reported: 11/25/02

Work Order: 0211190

Lab Sample ID: 0211190-07A

Client Sample ID: SWMU52D-CS-04-1-MSD

Date Collected: 11/21/02

Date Received: 11/21/02 15:35

Matrix: Soil

COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10285

11/21/02 16:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

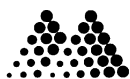
S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

SW-846 8081A: Pesticides (USACE), Solid

QC Type: Method Blank
Sample ID: MB-10285
Run ID: GC 6_021122A

Analysis Date: 11/22/02 11:44
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394469

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	U	0	0	0		3		
Aldrin	U	0	0	0		1.65		
Dieldrin	U	0	0	0		3		
Endrin	U	0	0	0		3		
gamma-BHC (Lindane)	U	0	0	0		3		
Heptachlor	U	0	0	0		3		
Surrogates								
Decachlorobiphenyl	174	0	167	104	65	135		
Tetrachloro-m-xylene	153	0	167	91.4	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-10285
Run ID: GC 6_021122A

Analysis Date: 11/22/02 12:11
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394470

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	31.1		33.3	93.3	65	135		
gamma-BHC (Lindane)	32.0		33.3	96.2	65	135		
Surrogates								
Tetrachloro-m-xylene	167		167	100	65	135		

Sample Comments: Surrogate in LCS has a slightly high bias and is outside project specific QC, but falls within in-house limits.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

QC Type: Laboratory Control Spike
Sample ID: LCS-10285
Run ID: GC 6_021122A

Analysis Date: 11/22/02 12:11
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394471

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	33.0		33.3	99.0	65	135		
Dieldrin	31.1		33.3	93.3	65	135		
Endrin	33.0		33.3	99.1	65	135		
Heptachlor	35.4		33.3	106	65	135		

Surrogates

Decachlorobiphenyl 227S(8a) 167 136 65 135

8a: See sample comments.

Sample Comments: Surrogate in LCS has a slightly high bias and is outside project specific QC, but falls within in-house limits.

QC Type: Matrix Spike
Sample ID: 0211190-06A
Run ID: GC 6_021122A

Analysis Date: 11/22/02 14:26
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394474

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	50.0	26.4	33.3	70.8	65	135		
Surrogates								
Tetrachloro-m-xylene	155	0	167	92.7	65	135		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

QC Type: Matrix Spike
Sample ID: 0211190-06A
Run ID: GC 6_021122A

Analysis Date: 11/22/02 14:26
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394475

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	40.6 S(2s)	20.7	33.3	59.9	65	135		
Dieldrin	30.4	1.4 J	33.3	87.0	65	135		
Endrin	32.9	4.28	33.3	86.0	65	135		
gamma-BHC (Lindane)	29.9	U	33.3	89.8	65	135		
Heptachlor	41.6	6.28	33.3	106	65	135		

Surrogates

Decachlorobiphenyl	217	0	167	130	65	135
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2s: High level of target analyte in parent sample - spike is insignificant

QC Type: Matrix Spike Duplicate
Sample ID: 0211190-07A
Run ID: GC 6_021122A

Analysis Date: 11/22/02 15:25
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394476

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	51.9	26.4	33.3	76.5	65	135	50.0	3.7

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211190-1
Date Reported: 11/25/02
Work Order: 0211190

QC Type: Matrix Spike Duplicate
Sample ID: 0211190-07A
Run ID: GC 6_021122A

Analysis Date: 11/22/02 15:25
Prep Batch ID: 10285

Units: µg/Kg
Seq No: 394477

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
4,4'-DDT	40.9S(2s)	20.7	33.3	60.7	65	135	40.6	0.73 35
Dieldrin	31.4	1.4 J	33.3	90.2	65	135	30.4	3.4 35
Endrin	33.2	4.28	33.3	86.9	65	135	32.9	0.90 35
gamma-BHC (Lindane)	28.4	U	33.3	85.2	65	135	29.9	5.2 35
Heptachlor	42.8	6.28	33.3	110	65	135	41.6	2.9 35
Surrogates								
Decachlorobiphenyl	185	0	167	111	65	135		
Tetrachloro-m-xylene	146	0	167	87.5	65	135		

2s: High level of target analyte in parent sample - spike is insignificant

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



1645 West 2200 South • Salt Lake City, UT 84119 • 800-973-6724 • Fax 801-972-6278
Website: www.msallabs.com E-mail: service@msallabs.com

Mountain States Analytical, Inc.

Bill Laguna Construction

25728

Sample Chain of Custody
Analysis Request Form

Company/Client: LAGUNA/SCA		Sampler(s): C. Sullivan	
Project Name: SWMU52D		Quote #:	
Project No.: B-5063		P.O.#:	
Sample Identification			
Sample Identification	Date Collected	Time Collected	Grab
1 SWMU52-CS-01-1	11/2/02	1330	✓
2 SWMU52-CS-02-1		1340	✓
3 SWMU52-CS-03-1		1335	✓
4 SWMU52-CS-04-1		1345	✓
5 SWMU52D-CS-05-1		1350	✓
6 SWMU52D-CS-04-1-MS		1345	✓
7 SWMU52D-CS-04-1-MSD		1345	✓
8 SWMU52D-CS-05-1			
9 RIN552D-1	11/2/02	1400	✓
10 RIN5067-1		1430	✓
11 BIN4994-1		1400	✓
12			
13			
Relinquished By			
Date		Time	
11/2/02		1535	
Received By		Tim Cleary	
Turnaround Time:			
Standard		1 Day(s)	
Preservative:			
1 - Chilled to 4°C 2 - HNO ₃ 3 - H ₂ SO ₄ 4 - Na ₂ S ₂ O ₈ 5 - HCl 6 - NaOH 7 - NaOH/ZnAC 8 - Other			
Comments/Special Instructions:			
Temp Blank Inverted In Cooler			
MSAI Use			
W.O. # 0211190			
LOC 1382			

*RUSH TAT is subject to MSAI approval and surcharges will apply. ALL TAT's are based on WORKING days. Samples received after 4:00 PM will not be processed until the next business day.

24 Hr. TAT
STAND TAT

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Hand Carried

Work Order No. 021190
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: 215 Surface Radioactivity Reading (if required) _____ mR/hr

Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Temperature: 2°C Thermometer ID: 4826 Correction Factor: 0 Temp Blank Included: Yes ☒ No ☐

Packing Description: Samples in baggies.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 25728
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: SWMU52D-CS-01-1, -02-1, -03-1, -04-1, -04-1-MS, -04-1-MSD,
BIN52D-1, BIN5067-1, and BIN4994-1.
(2x)

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other: _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒
HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSAI Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

JA Date: 11/21/02 Time: 1600 Reviewed by: PKO Date: 11/21/02

December 10, 2002

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU52D

Work Order: 0211191

Project ID: B-5063

Dear Kenn Conner,

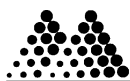
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0211191-1 and contains 8 pages of information for the 2 samples submitted to MSA on Thursday, November 21, 2002. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 8. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager

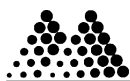


Sample Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0211191-01A	RINS52D-1		Water	11/21/02
0211191-02A	BIN5067-1		Soil	11/21/02



Holding Time Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191

Sample ID	Client Sample ID	Date Collected						
0211191-01A	RINS52D-1	11/21/02 14:00						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/27/02 10:00	7	12/06/02 21:36	40	
Pesticides (USACE)				11/27/02 10:00	7	12/06/02 21:36	40	
0211191-02A	BIN5067-1	11/21/02 14:30						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/27/02 10:00	7	12/06/02 22:03	40	
Pesticides (USACE)				11/27/02 10:00	7	12/06/02 22:03	40	

* - The recommended holding time was exceeded

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191
Lab Sample ID: 0211191-01A
Client Sample ID: RINS52D-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Water
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Water							
Chlordane	U	0.02	0.99	µg/L	1	12/06/02 21:36	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	109		65-135	% Recovery	1	12/06/02 21:36	PWK
Tetrachloro-m-xylene	87.4		65-135	% Recovery	1	12/06/02 21:36	PWK
SW-846 3510C: Separatory Funnel Liq/Liq Ext., PEST, Water							
Prep Batch ID: 10346					0.99	11/27/02 10:00	TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU52D
Project ID: B-5063
Purchase Order:

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191
Lab Sample ID: 0211191-02A
Client Sample ID: BIN5067-1
Date Collected: 11/21/02
Date Received: 11/21/02 15:35
Matrix: Soil
COC ID: 25728

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 1311: TCLP Extraction, Herbicide/Pesticide, Solid

Prep Batch ID: 10298 11/25/02 16:30 SSJ

Note for 11/25/02 16:30 analysis: 100% Solids

SW-846 8081A: Pesticides (USACE), Extract

Chlordane	0.85 J	0.019	0.952	µg/L	1	12/06/02 22:03	PWK
Endrin	U	0.0095	0.0952	µg/L	1	12/06/02 22:03	PWK
gamma-BHC (Lindane)	U	0.0095	0.0952	µg/L	1	12/06/02 22:03	PWK
Heptachlor	U	0.0095	0.0952	µg/L	1	12/06/02 22:03	PWK
Heptachlor epoxide	0.015 J	0.0095	0.0952	µg/L	1	12/06/02 22:03	PWK
Methoxychlor	U	0.0095	0.0952	µg/L	1	12/06/02 22:03	PWK
Toxaphene	U	0.19	0.476	µg/L	1	12/06/02 22:03	PWK

Surrogates
Recovery Range

Decachlorobiphenyl	126	65-135	% Recovery	1	12/06/02 22:03	PWK
Tetrachloro-m-xylene	94.1	65-135	% Recovery	1	12/06/02 22:03	PWK

SW-846 3510C: Separatory Funnel Liq/Liq Ext., PEST, Extract

Prep Batch ID: 10346 0.95 11/27/02 10:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191

SW-846 8081A: Pesticides, Water

QC Type: Method Blank
Sample ID: MB-10346
Run ID: GC 6_021206A

Analysis Date: 12/06/02 20:15
Prep Batch ID: 10346

Units: µg/L
Seq No: 399810

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		0.1		
Endrin	U	0	0	0		0.02		
gamma-BHC (Lindane)	U	0	0	0		0.02		
Heptachlor	U	0	0	0		0.02		
Heptachlor epoxide	U	0	0	0		0.01		
Methoxychlor	U	0	0	0		0.01		
Toxaphene	U	0	0	0		0.2		
Surrogates								
Decachlorobiphenyl	5.06	0	5.00	101	19	145		
Tetrachloro-m-xylene	4.36	0	5.00	87.2	30	112		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

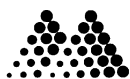
S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191

QC Type: Laboratory Control Spike
Sample ID: LCS-10346
Run ID: GC 6_021206A

Analysis Date: 12/06/02 20:42
Prep Batch ID: 10346

Units: µg/L
Seq No: 399812

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	0.898		1.00	89.8	48	106		
4,4'-DDT	1.03		1.00	103	64	122		
Dieldrin	0.961		1.00	96.1	66	111		
Endrin	0.988		1.00	98.8	69	112		
gamma-BHC (Lindane)	0.948		1.00	94.8	67	111		
Heptachlor	0.911		1.00	91.1	50	115		
Surrogates								
Decachlorobiphenyl	4.79		5.00	95.8	19	145		
Tetrachloro-m-xylene	4.47		5.00	89.5	30	112		

QC Type: Laboratory Control Spike Duplicate
Sample ID: LCSD-10346
Run ID: GC 6_021206A

Analysis Date: 12/06/02 21:09
Prep Batch ID: 10346

Units: µg/L
Seq No: 399813

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Heptachlor	0.840		1.00	84.0	50	115	0.911	8.1 25

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU52D
Project ID: B-5063

Report Number: 0211191-1
Date Reported: 12/10/02
Work Order: 0211191

QC Type: Laboratory Control Spike Duplicate
Sample ID: LCSD-10346
Run ID: GC 6_021206A

Analysis Date: 12/06/02 21:09
Prep Batch ID: 10346

Units: µg/L
Seq No: 399814

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Aldrin	0.839		1.00	83.9	48	106	0.898	6.9 25
4,4'-DDT	0.971		1.00	97.1	64	122	1.03	6.1 25
Dieldrin	0.894		1.00	89.4	66	111	0.961	7.2 25
Endrin	0.917		1.00	91.7	69	112	0.988	7.5 25
gamma-BHC (Lindane)	0.884		1.00	88.4	67	111	0.948	6.9 25
Surrogates								
Decachlorobiphenyl	5.25		5.00	105	19	145		
Tetrachloro-m-xylene	4.14		5.00	82.7	30	112		

QC Type: TCLP Blank
Sample ID: BF-10298
Run ID: GC 6_021206A

Analysis Date: 12/06/02 22:57
Prep Batch ID: 10346

Units: µg/L
Seq No: 399822

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Chlordane	U	0	0	0		0.4		
Endrin	U	0	0	0		0.04		
gamma-BHC (Lindane)	U	0	0	0		0.04		
Heptachlor	U	0	0	0		0.04		
Heptachlor epoxide	U	0	0	0		0.04		
Methoxychlor	U	0	0	0		0.04		
Toxaphene	U	0	0	0		2		
Surrogates								
Decachlorobiphenyl	22.1	0	20.0	111	45	145		
Tetrachloro-m-xylene	16.9	0	20.0	84.6	55	100		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S -Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Sample Chain of Custody Analysis Request Form

Analysis Request Form

25728

Company/Client: LAGUNA/SCA						Sampler(s): C. SERRANO						Analysis Request															
Project Name: SWMU52D						Quote #:																					
Project No.: B-5063						P.O.#:																					
Sample Identification												Type	Matrix							Number of Containers							
	Date Collected	Time Collected	Grab	Composite	Solid	Aqueous	Organic Liquid	Multi-phase																			
1	SWMU52-CS-01-1	11/2/92	1330	V	V	V	V	V	1	V																	
2	SWMU52-CS-02-1		1340	V	V	V	V	V	1	V																	
3	SWMU52-CS-03-1		1335	V	V	V	V	V	1	V																	
4	SWMU52-CS-04-1		1345	V	V	V	V	V	1	V																	
5	SWMU52B-CS-05-1		1350	V	V	V	V	V	1	V																	
6	SWMU52D-CS-04-1-MS		1345	V	V	V	V	V	1	V																	
7	SWMU52D-CS-04-1-MSD		1345	V	V	V	V	V	1	V																	
8	SWMU52D-CS-05-1																										
9	RINS52D-1	11/2/92	1400	V	V	V	V	V	2	V																	
10	RINS52D-1		1430	V	V	V	V	V	1	V																	
11	BIN4994-1		900	V	V	V	V	V	1	V																	
12																											
13																											
Relinquished By	Date	Time	Received By	Relinquished By		Date	Time	Received By																			
CAROL	11/2/92	1535	Pamela																								
Contact Information										Turnaround Time:																	
Reports To: KENN GUNTER										Standard <input checked="" type="checkbox"/> Rush* <input type="checkbox"/> _____ Day(s)																	
E-mail: kgunter@scs-ca.com										Phone: (510) 645-6236 x412																	
Fax: (510) 648-839-6200										Address: 334 19th St.																	
Oakland CA 94612										<p>*RUSH TAT is subject to MSAI approval and surcharges will apply. ALL TAT's are based on WORKING days. Samples received after 4:00 PM will not be processed until the next business day.</p>																	
Preservative:										Comments/Special Instructions:																	
1 - Chilled to 4°C 2 - HNO ₃ 3 - H ₂ SO ₄ 4 - Na ₂ SO ₃ 5 - HCl 6 - NaOH 7 - NaOH/ZnAc 8 - Other										TEMP BURK INCUDED IN COOLER																	
MSAI Use										W.O. #																	
										LOC																	
										1332																	

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Hand Carried

Work Order No. 0211191
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: 215 Surface Radioactivity Reading (if required) _____ mR/hr

Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____

Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐

Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____

State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐

Temperature: 2°C Thermometer ID: 4026 Correction Factor: 0 Temp Blank Included: Yes ☒ No ☐

Packing Description: Samples in baggies.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____

COC Number(s): 25728

COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐

COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐

Notes: _____

Sample Information:

Samples included in cooler: SWMUS2D-CS-01-1, -02-1, -03-1, -04-1, -04-1-MS, -04-1-MSD,
BIN552D-1, BIN5067-1, and BIN4994-1.
(2x)

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____

Samples in proper containers: Yes ☒ No ☐ _____

Sufficient sample volume: Yes ☒ No ☐ _____

All samples received in hold time: Yes ☒ No ☐ _____

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

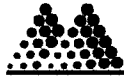
Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒
 HNO_3 = _____ H_2SO_4 = _____ NaOH = _____ $\text{ZnAC} / \text{NaOH}$ = _____ HCL = _____

Water - pH adjusted: (MSAI Tracking No.)
 HNO_3 _____ H_2SO_4 _____ NaOH _____
 ZnAC _____ Na_2SO_3 _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

JA Date: 11/21/02 Time: 1600 Reviewed by: PKO Date: 11/21/02



Mountain States Analytical, LLC

1645 West 2200 South · Salt Lake City, Utah 84119 · 800-973-6724

December 02, 2002

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52D

Work Order: 0211244

Project ID: B-5064

Dear Kenn Conner,

Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0211244-1 and contains 9 pages of information for the 3 samples submitted to MSA on Tuesday, November 26, 2002. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 9. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager

Sample Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0211244-01A	SWMU52D-CS-06-1.25	SWMU52D-CS-06	Soil	11/26/02
0211244-01B	SDG: SCA-08			12/11/02
0211244-02A	SWMU52D-CS-07-1.25	SWMU52D-CS-07	Soil	11/26/02
0211244-03A	SWMU52D-CS-08-2.5	SWMU52D-CS-08	Soil	11/26/02

Holding Time Summary

Client: SCA Environmental

Project: TEAD SWMU 52D

Project ID: B-5064

Report Number: 0211244-1

Date Reported: 12/02/02

Work Order: 0211244

Sample ID	Client Sample ID	Date Collected						
0211244-01A	SWMU52D-CS-06-1.25	11/26/02 10:00						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/27/02 08:20	14	11/27/02 23:03	40	
Pesticides (USACE)				11/27/02 08:20	14	11/27/02 23:03	40	
0211244-02A	SWMU52D-CS-07-1.25	11/26/02 10:05						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/27/02 08:20	14	11/29/02 16:42	40	
Pesticides (USACE)				11/27/02 08:20	14	11/29/02 16:42	40	
0211244-03A	SWMU52D-CS-08-2.5	11/26/02 10:10						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				11/27/02 08:20	14	11/29/02 17:09	40	
Pesticides (USACE)				11/27/02 08:20	14	11/29/02 17:09	40	

* - The recommended holding time was exceeded



1645 West 2200 South · Salt Lake City, Utah 84119 · 800-973-6724

11/27/02 11:45 AM

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5064
Purchase Order:

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244
Lab Sample ID: 0211244-01A
Client Sample ID: SWMU52D-CS-06-1.25
Date Collected: 11/26/02
Date Received: 11/26/02 17:20
Matrix: Soil
COC ID: 26045

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 3050B: Flame/hrICP Prep, Solid							
Prep Batch ID: 10313					50	11/26/02 18:30	BBO
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	957	2	50	µg/Kg	1	11/27/02 23:03	KPF
Surrogates		Recovery Range					
Decachlorobiphenyl	116		65-135	% Recovery	1	11/27/02 23:03	KPF
Tetrachloro-m-xylene	102		65-135	% Recovery	1	11/27/02 23:03	KPF
SW-846 3550B: Ultrasonic Extraction, Pest, Solid							
Prep Batch ID: 10315						11/27/02 08:20	RJS

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



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Method 8260

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5064
Purchase Order:

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244
Lab Sample ID: 0211244-02A
Client Sample ID: SWMU52D-CS-07-1.25
Date Collected: 11/26/02
Date Received: 11/26/02 17:20
Matrix: Soil
COC ID: 26045

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 3050B: Flame/hrICP Prep, Solid

Prep Batch ID: 10313	50	11/26/02 18:30	BBO
----------------------	----	----------------	-----

SW-846 8081A: Pesticides (USACE), Solid

Chlordane	1650	20	500	µg/Kg	10	11/29/02 16:42	KPF
-----------	------	----	-----	-------	----	----------------	-----

Surrogates

Recovery Range

Decachlorobiphenyl	99.0	65-135	% Recovery	10	11/29/02 16:42	KPF
Tetrachloro-m-xylene	86.9	65-135	% Recovery	10	11/29/02 16:42	KPF

Note for 11/29/02 16:42 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10315	11/27/02 08:20	RJS
----------------------	----------------	-----

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



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Report generated by: 11/26/2002 10:07 AM

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5064
Purchase Order:

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244
Lab Sample ID: 0211244-03A
Client Sample ID: SWMU52D-CS-08-2.5
Date Collected: 11/26/02
Date Received: 11/26/02 17:20
Matrix: Soil
COC ID: 26045

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 3050B: Flame/hrICP Prep, Solid							
Prep Batch ID: 10313					51	11/26/02 18:30	BBO
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	2090	20	500	µg/Kg	10	11/29/02 17:09	KPF
Surrogates		Recovery Range					
Decachlorobiphenyl	101		65-135	% Recovery	10	11/29/02 17:09	KPF
Tetrachloro-m-xylene	87.6		65-135	% Recovery	10	11/29/02 17:09	KPF

Note for 11/29/02 17:09 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10315 11/27/02 08:20 RJS

U - Not detected above the MDL B - Analyte detected in the associated Method Blank S - Results outside normal recovery limits
J - Analyte detected below the PQL E - Result is outside of quantitation range R - RPD outside normal precision limits
* - Result is greater than the associated action level

Individual pages or portions of this report may not be separated and presented for regulatory compliance.

Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244

SW-846 8081A: Pesticides (USACE), Solid

QC Type: Matrix Spike
Sample ID: 0211244-01AMS
Run ID: GC 6_021127A

Analysis Date: 11/27/02 23:30
Prep Batch ID: 10315

Units: µg/Kg
Seq No: 396333

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	45.0	8.24	33.3	110	65	135		
Surrogates								
Decachlorobiphenyl	216	0	167	130	65	135		
Tetrachloro-m-xylene	188	0	167	113	65	135		

QC Type: Matrix Spike
Sample ID: 0211244-01AMS
Run ID: GC 6_021127A

Analysis Date: 11/27/02 23:30
Prep Batch ID: 10315

Units: µg/Kg
Seq No: 396334

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	30.0	3.33	33.3	80.1	65	135		
Dieldrin	35.0	U	33.3	105	65	135		
Endrin	37.6	U	33.3	113	65	135		
gamma-BHC (Lindane)	35.2	U	33.3	106	65	135		
Heptachlor	36.7	U	33.3	110	65	135		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

Individual pages or portions of this report may not be separated and presented for regulatory compliance.

Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211244-1
Date Reported: 12/02/02
Work Order: 0211244

QC Type: Method Blank
Sample ID: MB-10315
Run ID: GC 6_021127A

Analysis Date: 11/27/02 22:09
Prep Batch ID: 10315

Units: µg/Kg
Seq No: 397095

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		2		

QC Type: Laboratory Control Spike
Sample ID: LCS-10315
Run ID: GC 6_021127A

Analysis Date: 11/27/02 22:36
Prep Batch ID: 10315

Units: µg/Kg
Seq No: 397096

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Heptachlor	35.0		33.3	105	65	135		
Surrogates								
Decachlorobiphenyl	217		167	130	65	135		
Tetrachloro-m-xylene	195		167	116	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-10315
Run ID: GC 6_021127A

Analysis Date: 11/27/02 22:36
Prep Batch ID: 10315

Units: µg/Kg
Seq No: 397097

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	34.7		33.3	104	65	135		
Aldrin	34.9		33.3	105	65	135		
Dieldrin	34.7		33.3	104	65	135		
Endrin	36.3		33.3	109	65	135		
gamma-BHC (Lindane)	35.7		33.3	107	65	135		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Mountain States Analytical, Inc.

1646 West 2200 South • Salt Lake City, UT 84119 • 800-975-6724 • Fax 801-972-6278
Website: www.mtsalabs.com E-mail: service@mtsalabs.com

26045

Sample Chain of Custody
Analysis Request Form

Company/Client: LAURIA/SCA		Sampler(s): C. Swann																																																																																																																																																														
Project Name: SWMU 520/ SWMU 56		Quote #:																																																																																																																																																														
Project No.: A-5064		P.O. #:																																																																																																																																																														
<table border="1"><thead><tr><th rowspan="2">Sample Identification</th><th rowspan="2">Date Collected</th><th rowspan="2">Time Collected</th><th colspan="5">Matrix</th></tr><tr><th>Grab</th><th>Composite</th><th>Solid</th><th>Aqueous</th><th>Organic Liquid</th><th>Multi-phase</th></tr></thead><tbody><tr><td>1 BIN9084-1</td><td>11/14</td><td>930</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2 BIN4707-1</td><td></td><td>1300</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3 BIN8307-1</td><td></td><td>1345</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4 BIN2227-1</td><td></td><td>1440</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5 BIN18036-1</td><td></td><td>1530</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6 BIN2618-1</td><td></td><td>1610</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7 SWMU520-CS-06-1.25</td><td></td><td>1000</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8 SWMU520-CS-07-1.75</td><td></td><td>1005</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9 SWMU520-CS-08-2.5</td><td></td><td>1010</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10 SWMU56-CS-17-3</td><td></td><td>1615</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11 SWMU56-CS-18-3</td><td></td><td>1540</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>12 SWMU56-CS-19-1.5</td><td></td><td>1545</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>13</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>				Sample Identification	Date Collected	Time Collected	Matrix					Grab	Composite	Solid	Aqueous	Organic Liquid	Multi-phase	1 BIN9084-1	11/14	930	✓	✓							2 BIN4707-1		1300	✓	✓							3 BIN8307-1		1345	✓	✓							4 BIN2227-1		1440	✓	✓							5 BIN18036-1		1530	✓	✓							6 BIN2618-1		1610	✓	✓							7 SWMU520-CS-06-1.25		1000	✓	✓							8 SWMU520-CS-07-1.75		1005	✓	✓							9 SWMU520-CS-08-2.5		1010	✓	✓							10 SWMU56-CS-17-3		1615	✓	✓							11 SWMU56-CS-18-3		1540	✓	✓							12 SWMU56-CS-19-1.5		1545	✓	✓							13										
Sample Identification	Date Collected	Time Collected	Matrix																																																																																																																																																													
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8 SWMU520-CS-07-1.75		1005	✓	✓																																																																																																																																																												
9 SWMU520-CS-08-2.5		1010	✓	✓																																																																																																																																																												
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Turnaround Time: Standard		Rush* 1 Day(s)																																																																																																																																																														
Reports To: Kean Conner (SCA)		E-mail: kconner@scs-enviro.com																																																																																																																																																														
Phone: (510) 645-6236 x412		Fax: (510) 839-6200																																																																																																																																																														
Address: 334 19th St, Oakland, CA 94612		MSAI Use: W.O. # 0211244 LOC 4472																																																																																																																																																														

Standard TAT
Rush TAT

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA

Work Order No. 02112414

Carrier: Client

Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____

Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____

Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: Green - White top Surface Radioactivity Reading (if required) _____ mR/hr

Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____

Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐

Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____

State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐

Temperature: 0.0°C Thermometer ID: 6755 Correction Factor: 1 Temp Blank Included: Yes ☒ No ☐

Packing Description: Samples in ziplock bags, inside a cooler.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____

COC Number(s): 26045

COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐

COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐

Notes: _____

Sample Information:

Samples included in cooler:	BIN 9084-1	BIN 2618-1	SWMV56-CS-18-3
	BIN 4707-1	SWMV52D-CS-06-1.25	SWMV56-CS-19-1.5
	BIN 8307-1	" 07-1.25	
	BIN 2227-1	" 08-2.5	
	BIN 18036-1	SWMV56-CS-17-3	

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____

Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____

Samples in proper containers: Yes ☒ No ☐ _____

Sufficient sample volume: Yes ☒ No ☐ _____

All samples received in hold time: Yes ☒ No ☐ _____

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒

Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒

HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC/NaOH = _____ HCl = _____

Water - pH adjusted: (MSAI Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____

ZnAC _____ Na₂SO₃O₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

John Yandley Date: 11-26-02 Time: 1740 Reviewed by: PK Date: 11/26/02

December 10, 2002

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52D

Work Order: 0211246

Project ID: B-5064

Dear Kenn Conner,

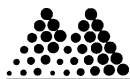
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0211246-1 and contains 7 pages of information for the sample submitted to MSA on Tuesday, November 26, 2002. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 7. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager



Sample Summary

Client: SCA Environmental

Project: TEAD SWMU 52D

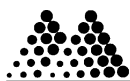
Project ID: B-5064

Report Number: 0211246-1

Date Reported: 12/10/02

Work Order: 0211246

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0211246-01A	BIN9084-1		Soil	11/26/02



Holding Time Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211246-1
Date Reported: 12/10/02
Work Order: 0211246

Sample ID	Client Sample ID	Date Collected						
0211246-01A	BIN9084-1	11/26/02 09:30						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				12/03/02 17:00	7	12/07/02 00:45	40	
Pesticides (USACE)				12/03/02 17:00	7	12/07/02 00:45	40	

* - The recommended holding time was exceeded

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5064
Purchase Order:

Report Number: 0211246-1
Date Reported: 12/10/02
Work Order: 0211246
Lab Sample ID: 0211246-01A
Client Sample ID: BIN9084-1
Date Collected: 11/26/02
Date Received: 11/26/02 17:20
Matrix: Soil
COC ID: 26045

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
-----------	--------	-----	-----	-------	----	---------------	---------

SW-846 1311: TCLP Extraction, Herbicide/Pesticide, Solid

Prep Batch ID: 10333 12/02/02 19:00 RH

Note for 12/02/02 19:00 analysis: 100% SOLIDS

SW-846 8081A: Pesticides (USACE), Extract

Chlordane	3.33	0.02	1	µg/L	1	12/07/02 00:45	PWK
Endrin	U	0.01	0.1	µg/L	1	12/07/02 00:45	PWK
gamma-BHC (Lindane)	U	0.01	0.1	µg/L	1	12/07/02 00:45	PWK
Heptachlor	U	0.01	0.1	µg/L	1	12/07/02 00:45	PWK
Heptachlor epoxide	0.066 J	0.01	0.1	µg/L	1	12/07/02 00:45	PWK
Methoxychlor	U	0.01	0.1	µg/L	1	12/07/02 00:45	PWK
Toxaphene	U	0.2	0.5	µg/L	1	12/07/02 00:45	PWK

Surrogates
Recovery Range

Decachlorobiphenyl	105	65-135	% Recovery	1	12/07/02 00:45	PWK
Tetrachloro-m-xylene	79.6	65-135	% Recovery	1	12/07/02 00:45	PWK

SW-846 3510C: Separatory Funnel Liq/Liq Ext., PEST, Extract

Prep Batch ID: 10344 12/03/02 17:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211246-1
Date Reported: 12/10/02
Work Order: 0211246

SW-846 8081A: Pesticides (USACE), Extract

QC Type: Method Blank
Sample ID: MB-10344
Run ID: GC 6_021206A

Analysis Date: 12/06/02 23:24
Prep Batch ID: 10344

Units: µg/L
Seq No: 399837

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		1		
Endrin	U	0	0	0		0.075		
gamma-BHC (Lindane)	U	0	0	0		0.05		
Heptachlor	U	0	0	0		0.05		
Heptachlor epoxide	U	0	0	0		0.05		
Methoxychlor	U	0	0	0		0.075		
Toxaphene	U	0	0	0		1		
Surrogates								
Decachlorobiphenyl	5.53	0	5.00	111	65	135		
Tetrachloro-m-xylene	4.06	0	5.00	81.2	65	135		

QC Type: Laboratory Control Spike Duplicate
Sample ID: LCSD-10344
Run ID: GC 6_021206A

Analysis Date: 12/07/02 00:18
Prep Batch ID: 10344

Units: µg/L
Seq No: 399840

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Heptachlor	0.845		1.00	84.5	65	135	0.833	1.4

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

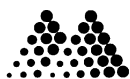
S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211246-1
Date Reported: 12/10/02
Work Order: 0211246

QC Type: Laboratory Control Spike Duplicate
Sample ID: LCSD-10344
Run ID: GC 6_021206A

Analysis Date: 12/07/02 00:18
Prep Batch ID: 10344

Units: µg/L
Seq No: 399841

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Aldrin	0.837		1.00	83.7	65	135	0.830	0.88 20
4,4'-DDT	1.03		1.00	103	65	135	1.01	1.9 20
Dieldrin	0.930		1.00	93.0	65	135	0.914	1.7 20
Endrin	0.960		1.00	96.0	65	135	0.940	2.1 20
gamma-BHC (Lindane)	0.920		1.00	92.0	65	135	0.903	1.9 20
Surrogates								
Decachlorobiphenyl	6.02		5.00	120	65	135		
Tetrachloro-m-xylene	4.29		5.00	85.8	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-10344
Run ID: GC 6_021206A

Analysis Date: 12/06/02 23:51
Prep Batch ID: 10344

Units: µg/L
Seq No: 399855

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Heptachlor	0.833		1.00	83.3	65	135		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5064

Report Number: 0211246-1
Date Reported: 12/10/02
Work Order: 0211246

QC Type: Laboratory Control Spike
Sample ID: LCS-10344
Run ID: GC 6_021206A

Analysis Date: 12/06/02 23:51
Prep Batch ID: 10344

Units: µg/L
Seq No: 399856

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	0.830		1.00	83.0	65	135		
4,4'-DDT	1.01		1.00	101	65	135		
Dieldrin	0.914		1.00	91.4	65	135		
Endrin	0.940		1.00	94.0	65	135		
gamma-BHC (Lindane)	0.903		1.00	90.3	65	135		
Surrogates								
Decachlorobiphenyl	5.82		5.00	116	65	135		
Tetrachloro-m-xylene	4.24		5.00	84.9	65	135		

QC Type: TCLP Blank
Sample ID: BF-10333
Run ID: GC 6_021206A

Analysis Date: 12/07/02 01:12
Prep Batch ID: 10344

Units: µg/L
Seq No: 399899

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		0.4		
Endrin	U	0	0	0		0.04		
gamma-BHC (Lindane)	U	0	0	0		0.04		
Heptachlor	U	0	0	0		0.04		
Heptachlor epoxide	U	0	0	0		0.04		
Methoxychlor	U	0	0	0		0.04		
Toxaphene	U	0	0	0		2		
Surrogates								
Decachlorobiphenyl	23.2	0	20.0	116	45	145		
Tetrachloro-m-xylene	16.1	0	20.0	80.6	55	100		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



1645 West 2200 South • Salt Lake City, UT 84119 • 800-973-6724 • Fax 801-972-6278
Website: www.msallabs.com E-mail: service@msallabs.com

Mountain States Analytical, Inc.

Bill To **LAGUNA Construction**

Sample Chain of Custody
Analysis Request Form

26045

Company/Client: LAGUNA/SCA		Sampler(s): C. Senn					
Project Name: SWMU520/SWMU56		Quote #:					
Project No.: 8-5064		P.O. #:					
Sample Identification							
1	BIN9084-1	11/26	930				
2	BIN4307-1		1300				
3	BIN8307-1		1345				
4	BIN2227-1		1440				
5	BIN18036-1		1530				
6	BIN2618-1		1610				
7	SWMU520-CS-06-1.25		1000				
8	SWMU520-CS-07-1.25		1005				
9	SWMU520-CS-08-2.5		1010				
10	SWMU56-CS-17-3		1615				
11	SWMU56-CS-18-3		1540				
12	SWMU56-CS-19-1.5		1545				
13							
Relinquished By		Date	Time	Received By	Date	Time	Received By
1		11/26/12	1130	Temp Blank			
2							
3							
Contact Information				Turnaround Time:			
Reports To: Keon Conner (SCA)				Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Day(s)			
E-mail: Kconner@scs-enviro.com				Preservative: 1 - Chilled to 4°C			
Phone: (510) 645-6236 x412				2 - HNO ₃			
Fax: (510) 839-6200				3 - H ₂ SO ₄			
Address: 334 19th St.				4 - Na ₂ SO ₄			
Oakland, CA 94612				5 - HCl			
				6 - NaOH			
				7 - NaOH/H ₂ NO ₃			
				8 - Other			
				Comments/Special Instructions:			
				TEMP BLANK IN COOLER			
				MSAI Use			
				W.O. #			
				LOC			
				412			

Strand
TAT
RUSI
TAT

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0211246
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____
Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: Green - White top Surface Radioactivity Reading (if required) _____ mR/hr
Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Temperature: 0.0°C Thermometer ID: 6355 Correction Factor: 0 Temp Blank Included: Yes ☒ No ☐

Packing Description: Samples in ziplock bags, inside a cooler.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 26045
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: BIN 9084-1 BIN 2618-1 SWMV56-CS-18-3
BIN 4707-1 SWMV52D-CS-06-1.25 SWMV56-CS-19-1.5
BIN 8307-1 " 07-1.25
BIN 2227-1 " 08-2.5
BIN 18036-1 SWMV56-CS-17-3

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒
HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSAI Tracking No.)
HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

Jaren Vardell Date: 11.26.02 Time: 1740 Reviewed by: JKO Date: 11/26/02



Mountain States Analytical, LLC

1645 West 2200 South · Salt Lake City, Utah 84119 · 800-973-6724

Analytical Report

February 07, 2003

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52d

Work Order: 0302039

Project ID: B-5063

Dear Kenn Conner,

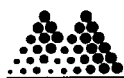
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0302039-1 and contains 10 pages of information for the 3 samples submitted to MSA on Thursday, February 06, 2003. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 10. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager



Sample Summary

Client: SCA Environmental
Project: TEAD SWMU 52d
Project ID: B-5063

Report Number: 0302039-1
Date Reported: 02/07/03
Work Order: 0302039

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0302039-01A	SWMU52D-CS-15-2		Soil	02/05/03
0302039-01B	SDG: SCA-11			02/21/03
0302039-02A	SWMU52D-CS-16-2		Soil	02/05/03
0302039-03A	SWMU52D-CS-17-3.5		Soil	02/05/03

Holding Time Summary

Client:	SCA Environmental	Report Number:	0302039-1
Project:	TEAD SWMU 52d	Date Reported:	02/07/03
Project ID:	B-5063	Work Order:	0302039

Sample ID	Client Sample ID	Date Collected						
0302039-01A	SWMU52D-CS-15-2	02/05/03 16:30						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 18:24	40	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 18:24	40	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 17:03	40	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 17:03	40	
0302039-02A	SWMU52D-CS-16-2	02/05/03 16:45						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 17:30	40	
Pesticides (USACE)				02/06/03 10:00	14	02/06/03 17:30	40	
0302039-03A	SWMU52D-CS-17-3.5	02/05/03 17:00						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				02/06/03 10:00	14	02/07/03 10:27	40	
Pesticides (USACE)				02/06/03 10:00	14	02/07/03 10:27	40	

* - The recommended holding time was exceeded



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Analytical Report

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52d

Project ID: B-5063

Purchase Order:

Report Number: 0302039-1

Date Reported: 02/07/03

Work Order: 0302039

Lab Sample ID: 0302039-01A

Client Sample ID: SWMU52D-CS-15-2

Date Collected: 02/05/03

Date Received: 02/06/03 09:45

Matrix: Soil

COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	687	10	250	µg/Kg	5	02/06/03 17:03	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	155 S (8a)	65-135		% Recovery	5	02/06/03 17:03	PWK
Decachlorobiphenyl	136 S (8a)	65-135		% Recovery	1	02/06/03 18:24	PWK
Tetrachloro-m-xylene	131	65-135		% Recovery	5	02/06/03 17:03	PWK
Tetrachloro-m-xylene	101	65-135		% Recovery	1	02/06/03 18:24	PWK

Note for 02/06/03 17:03 analysis: Sample diluted due to high levels of target compounds. Surrogate recoveries pass in-house limits but fail project specific limits.

Note for 02/06/03 18:24 analysis: Surrogate recoveries pass in-house limits but fail project specific limits.

8a: See sample comments.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10671

02/06/03 10:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

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1645 West 2200 South · Salt Lake City, Utah 84119 · 800-973-6724

Analytical Report

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52d

Project ID: B-5063

Purchase Order:

Report Number: 0302039-1

Date Reported: 02/07/03

Work Order: 0302039

Lab Sample ID: 0302039-02A

Client Sample ID: SWMU52D-CS-16-2

Date Collected: 02/05/03

Date Received: 02/06/03 09:45

Matrix: Soil

COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	466	10	250	µg/Kg	5	02/06/03 17:30	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	157 S (8a)	65-135		% Recovery	5	02/06/03 17:30	PWK
Tetrachloro-m-xylene	131	65-135		% Recovery	5	02/06/03 17:30	PWK

Note for 02/06/03 17:30 analysis: Sample diluted due to high levels of target compounds. Surrogate recoveries pass in-house limits but fail project specific limits.

8a: See sample comments.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10671

02/06/03 10:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



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Analytical Report

Client: Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52d

Project ID: B-5063

Purchase Order:

Report Number: 0302039-1

Date Reported: 02/07/03

Work Order: 0302039

Lab Sample ID: 0302039-03A

Client Sample ID: SWMU52D-CS-17-3.5

Date Collected: 02/05/03

Date Received: 02/06/03 09:45

Matrix: Soil

COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	5160	100	2500	µg/Kg	50	02/07/03 10:27	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	179 S (2z)	65-135	% Recovery	50	02/07/03 10:27	PWK	
Tetrachloro-m-xylene	150 S (2z)	65-135	% Recovery	50	02/07/03 10:27	PWK	

Note for 02/07/03 10:27 analysis: Sample diluted due to high levels of target compounds.

2z: Surrogate spike recovery was outside acceptable limits due to dilution and matrix interference

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 10671

02/06/03 10:00 SBC

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Individual pages or portions of this report may not be separated and presented for regulatory compliance.



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52d
Project ID: B-5063

Report Number: 0302039-1
Date Reported: 02/07/03
Work Order: 0302039

SW-846 8081A: Pesticides (USACE), Solid

QC Type: Method Blank
Sample ID: MB-10671
Run ID: GC 6_030206A

Analysis Date: 02/06/03 16:09
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412566

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Surrogates								
Tetrachloro-m-xylene	175	0	167	105	65	135		

QC Type: Method Blank
Sample ID: MB-10671
Run ID: GC 6_030206A

Analysis Date: 02/06/03 16:09
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412567

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		2		
Surrogates								
Decachlorobiphenyl	222	0	167	133	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-10671
Run ID: GC 6_030206A

Analysis Date: 02/06/03 16:36
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412568

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
gamma-BHC (Lindane)	32.9		33.3	98.8	65	135		

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52d
Project ID: B-5063

Report Number: 0302039-1
Date Reported: 02/07/03
Work Order: 0302039

QC Type: Laboratory Control Spike
Sample ID: LCS-10671
Run ID: GC 6_030206A

Analysis Date: 02/06/03 16:36
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412569

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	38.4		33.3	115	65	135		
Aldrin	31.9		33.3	95.8	65	135		
Dieldrin	32.9		33.3	98.9	65	135		
Endrin	34.6		33.3	104	65	135		
Heptachlor	36.5		33.3	109	65	135		
Surrogates								
Decachlorobiphenyl	229 S(8a)		167	137	65	135		
Tetrachloro-m-xylene	175		167	105	65	135		

8a: See sample comments.

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

QC Type: Matrix Spike
Sample ID: 0302039-01AMS
Run ID: GC 6_030206A

Analysis Date: 02/06/03 18:51
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412577

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	41.7	U	33.3	125	65	135		
Surrogates								
Tetrachloro-m-xylene	186	0	167	111	65	135		

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU 52d
Project ID: B-5063

Report Number: 0302039-1
Date Reported: 02/07/03
Work Order: 0302039

QC Type: Matrix Spike
Sample ID: 0302039-01AMS
Run ID: GC 6_030206A

Analysis Date: 02/06/03 18:51
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412578

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
4,4'-DDT	46.6	7.63	33.3	117	65	135		
Dieldrin	34.2	U	33.3	103	65	135		
Endrin	38.5	U	33.3	116	65	135		
gamma-BHC (Lindane)	34.2	U	33.3	103	65	135		
Heptachlor	43.1	2.5 J	33.3	122	65	135		

Surrogates

Decachlorobiphenyl 244 S(8a) 0 167 146 65 135

8a: See sample comments.

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

QC Type: Matrix Spike Duplicate
Sample ID: 0302039-01AMSD
Run ID: GC 6_030206A

Analysis Date: 02/06/03 19:18
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412579

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	41.1	U	33.3	124	65	135	41.7	1.4 35
Surrogates								
Tetrachloro-m-xylene	182	0	167	109	65	135		

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52d
Project ID: B-5063

Report Number: 0302039-1
Date Reported: 02/07/03
Work Order: 0302039

QC Type: Matrix Spike Duplicate
Sample ID: 0302039-01AMSD
Run ID: GC_6_030206A

Analysis Date: 02/06/03 19:18
Prep Batch ID: 10671

Units: µg/Kg
Seq No: 412581

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit	
4,4'-DDT	44.5	7.63	33.3	111	65	135	46.6	4.6	35
Dieldrin	33.8	U	33.3	102	65	135	34.2	1.0	35
Endrin	37.5	U	33.3	113	65	135	38.5	2.6	35
gamma-BHC (Lindane)	33.4	U	33.3	100	65	135	34.2	2.2	35
Heptachlor	42.9	2.5 J	33.3	121	65	135	43.1	0.64	35

Surrogates

Decachlorobiphenyl 239S(8a) 0 167 143 65 135

8a: See sample comments.

Sample Comments: Surrogate recoveries pass in-house limits but fail project specific limits.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

26348

5

Company/Client: SCA / LAGUNA		Sampler(s): C. SANCHEZ	
Project Name: SWMU SC/52D		Quote #:	
Project No.: 8-5063		P.O. #: PM1000	

Sample Identification	Date Collected	Time Collected	Type		Matrix		Number of Containers	Analysis Request									
			Grab	Composite	Solid	Aqueous		Organic Liquid	Multi-phase	Pres. 0 2 3 4 5 6 7 8		Pres. 1 2 3 4 5 6 7 8		Pres. 1 2 3 4 5 6 7 8		Pres. 1 2 3 4 5 6 7 8	
1 BIN4939-1	2-4-03	1345	✓	✓	✓		1	TCLP Pb, Cd		TCLP Chlordane		TOTAL Chlordane		TOTAL Pb, Sb		STANDARD TAT	
2 BIN4949-1	2-4-03	1600	✓	✓	✓		1										
3 RIN56-2	2-4-03	1700	✓		✓		1										
4 RIN5177-1	2-5-03	1715	✓	✓			1										
5 RIN4867-1	2-5-03	1720	✓	✓			1										
6																	
7 SWMU52D-CS-15-2	2-5-03	1630	✓	✓	✓		1									RUSH TAT	
8 SWMU52D-CS-16-2	2-5-03	1645	✓	✓	✓		1									RUSH TAT	
9 SWMU52D-CS-17-3.5	2-5-03	1700	✓	✓	✓		1									RUSH TAT	
10																	
11 RIN552D-2	2-5-03	1730	✓		✓		1									STANDARD TAT (HNO3)	
12																	
13																	

Relinquished By	Date	Time	Received By	Relinquished By	Date	Time	Received By
1 <i>[Signature]</i>	2-6-03	0945	<i>[Signature]</i>				
2							
3							

Contact Information		Turnaround Time:	
Reports To: KIM CANNICK	Standard <input checked="" type="checkbox"/>	Preservative: <input checked="" type="checkbox"/> Chilled to 4 C	
E-mail: kcannick@scs-enviro.com	Rush* <input type="checkbox"/> Day(s)		
Phone: (510) 645-6236 x412			
Fax: (510) 839-6200			
Address: 334 19th St.			

Comments/Special Instructions:	
<p>*RUSH TAT is subject to MSAI approval and surcharges will apply. ALL TAT's are based on WORKING days. Samples received after 4:00 PM will not be processed until the next business day.</p>	

MSAI Use	W.O. #
LOC	1342
	1343

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0302039
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____
Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: White/Red Surface Radioactivity Reading (if required) _____ mR/hr
Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Thermometer ID: 6171 Reading: 1 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐

Packing Description: Ice

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 26398, 25734, 25738
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: BLN 5392-1 5084-1 SWMVS6-CS-31-4 -36-2
4927-1 5202-1 -32-4 -37-2
5039-1 -33-1 -38-2
4880-1 -34-1 -39-1
5066-1 -35-1

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐
Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒
HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)
HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

[Signature] Date: 2/6/03 Time: 12:05 Reviewed by: LAF Date: 2/6/03

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0705039
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____
Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: Upline 2 Surface Radioactivity Reading (if required) _____ mR/hr
Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Thermometer ID: 6171 Reading: 3 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐

Packing Description: Ice

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 26348
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: BIN 4739-1 SWMUS20-CS-15-2
4949-1 -16-2
RIN 56-2 -17-3.5
RIN 5177-1 RIN 5520-2
BIN 4867-1

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other: _____
Intact ☐ Broken ☐ Seal Number(s): _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☒ Adjusted (see comments below) ☐ Not Applicable ☐
HNO₃ = 42 H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

[Signature] Date: 2/6/03 Time: 1005 Reviewed by: CAF Date: 2/6/03

March 20, 2003

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMUs 56 & 52d

Work Order: 0302041

Project ID: B-5063

Dear Kenn Conner,

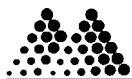
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0302041-2 and contains 20 pages of information for the 4 samples submitted to MSA on Thursday, February 06, 2003. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 20. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager



Sample Summary

Client: SCA Environmental

Project: TEAD SWMUs 56 & 52d

Project ID: B-5063

Report Number: 0302041-2

Date Reported: 03/20/03

Work Order: 0302041

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0302041-01A	BIN4939-1		Soil	02/04/03
0302041-01B	SDG: SCA-13			03/06/03
0302041-02A	BIN4949-1		Soil	02/04/03
0302041-03A	BIN5177-1		Soil	02/05/03
0302041-04A	BIN4867-1		Soil	02/05/03



Holding Time Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

Sample ID	Client Sample ID	Date Collected						
0302041-01A	BIN4939-1	02/04/03 13:45						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Metals by hrICP (USACE)	02/10/03 16:05	02/11/03 10:00	180	02/17/03 10:00		02/19/03 13:14	180	
0302041-02A	BIN4949-1	02/04/03 16:00						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Metals by hrICP (USACE)	02/10/03 16:05	02/11/03 10:00	180	02/17/03 10:00		02/19/03 14:07	180	
0302041-03A	BIN5177-1	02/05/03 17:15						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)	02/10/03 16:05	02/11/03 10:00	14	02/17/03 10:00	7	02/27/03 14:23	40	
Pesticides (USACE)	02/10/03 16:05	02/11/03 10:00	14	02/17/03 10:00	7	02/27/03 14:23	40	
0302041-04A	BIN4867-1	02/05/03 17:20						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)	02/10/03 16:05	02/11/03 10:00	14	02/17/03 10:00	7	02/27/03 15:44	40	
Pesticides (USACE)	02/10/03 16:05	02/11/03 10:00	14	02/17/03 10:00	7	02/27/03 15:44	40	

* - The recommended holding time was exceeded

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063
Purchase Order:

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041
Lab Sample ID: 0302041-01A
Client Sample ID: BIN4939-1
Date Collected: 02/04/03
Date Received: 02/06/03 09:45
Matrix: Soil
COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 1311: TCLP Extraction, Metals, Solid							
Prep Batch ID: 10701						02/10/03 16:05	SSJ
Note for 02/10/03 16:05 analysis: 100% Solids							
SW-846 3010A: Flame/hrICP Prep, Extract							
Prep Batch ID: 10748						02/17/03 10:00	BBO
SW-846 6010B: Metals by hrICP (USACE), Extract							
Cadmium	0.228	0.003	0.015	mg/L	1	02/19/03 13:14	JMR
Lead	2.15	0.03	0.15	mg/L	1	02/19/03 13:14	JMR

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063
Purchase Order:

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041
Lab Sample ID: 0302041-02A
Client Sample ID: BIN4949-1
Date Collected: 02/04/03
Date Received: 02/06/03 09:45
Matrix: Soil
COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 1311: TCLP Extraction, Metals, Solid							
Prep Batch ID: 10701						02/10/03 16:05	SSJ
Note for 02/10/03 16:05 analysis: 100% Solids							
SW-846 3010A: Flame/hrICP Prep, Extract							
Prep Batch ID: 10748						02/17/03 10:00	BBO
SW-846 6010B: Metals by hrICP (USACE), Extract							
Cadmium	0.0531	0.003	0.015	mg/L	1	02/19/03 14:07	JMR
Lead	0.313	0.03	0.15	mg/L	1	02/19/03 14:07	JMR

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

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Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063
Purchase Order:

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041
Lab Sample ID: 0302041-03A
Client Sample ID: BIN5177-1
Date Collected: 02/05/03
Date Received: 02/06/03 09:45
Matrix: Soil
COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 1311: TCLP Extraction, Herbicide/Pesticide, Solid

Prep Batch ID: 10702 02/10/03 16:05 SSJ

Note for 02/10/03 16:05 analysis: 100% Solids

SW-846 8081A: Pesticides (USACE), Extract

Chlordane	1.4 J	0.08	4	µg/L	1	02/27/03 14:23	PWK
Endrin	U	0.04	0.4	µg/L	1	02/27/03 14:23	PWK
gamma-BHC (Lindane)	U	0.04	0.4	µg/L	1	02/27/03 14:23	PWK
Heptachlor	U	0.04	0.4	µg/L	1	02/27/03 14:23	PWK
Heptachlor epoxide	U	0.04	0.4	µg/L	1	02/27/03 14:23	PWK
Methoxychlor	U	0.04	0.4	µg/L	1	02/27/03 14:23	PWK
Toxaphene	U	0.8	2	µg/L	1	02/27/03 14:23	PWK

Surrogates
Recovery Range

Decachlorobiphenyl	131	65-135	% Recovery	1	02/27/03 14:23	PWK
Tetrachloro-m-xylene	78.7	65-135	% Recovery	1	02/27/03 14:23	PWK

SW-846 3510C: Separatory Funnel Liq/Liq Ext., PEST, Extract

Prep Batch ID: 10753 4 02/17/03 10:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063
Purchase Order:

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041
Lab Sample ID: 0302041-04A
Client Sample ID: BIN4867-1
Date Collected: 02/05/03
Date Received: 02/06/03 09:45
Matrix: Soil
COC ID: 26348

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
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SW-846 1311: TCLP Extraction, Herbicide/Pesticide, Solid

Prep Batch ID: 10702 02/10/03 16:05 SSJ

Note for 02/10/03 16:05 analysis: 100% Solids

SW-846 8081A: Pesticides (USACE), Extract

Chlordane	U	0.08	4	µg/L	1	02/27/03 15:44	PWK
Endrin	U	0.04	0.4	µg/L	1	02/27/03 15:44	PWK
gamma-BHC (Lindane)	U	0.04	0.4	µg/L	1	02/27/03 15:44	PWK
Heptachlor	U	0.04	0.4	µg/L	1	02/27/03 15:44	PWK
Heptachlor epoxide	U	0.04	0.4	µg/L	1	02/27/03 15:44	PWK
Methoxychlor	U	0.04	0.4	µg/L	1	02/27/03 15:44	PWK
Toxaphene	U	0.8	2	µg/L	1	02/27/03 15:44	PWK

Surrogates
Recovery Range

Decachlorobiphenyl	129	65-135	% Recovery	1	02/27/03 15:44	PWK
Tetrachloro-m-xylene	79.0	65-135	% Recovery	1	02/27/03 15:44	PWK

SW-846 3510C: Separatory Funnel Liq/Liq Ext., PEST, Extract

Prep Batch ID: 10753 4 02/17/03 10:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

SW-846 6010B: Metals by hrICP, (UTS), Extract

QC Type: Method Blank
Sample ID: PBW-10748
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:06
Prep Batch ID: 10748

Units: mg/L
Seq No: 415644

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Arsenic	0.017	0	0	0	-0.06	0.03		
Barium	-0.00086	0	0	0	-0.006	0.003		
Cadmium	-0.00013	0	0	0	-0.006	0.003		
Chromium	0.0015	0	0	0	-0.02	0.01		
Lead	0.0098	0	0	0	-0.06	0.03		
Selenium	0.027	0	0	0	-0.1	0.05		
Silver	0.0010	0	0	0	-0.006	0.003		

QC Type: Laboratory Control Sample (Water)
Sample ID: LCSW-10748
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:09
Prep Batch ID: 10748

Units: mg/L
Seq No: 415645

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Arsenic	1.08		1.00	108	75	125		
Barium	0.219		0.200	110	75	125		
Cadmium	0.110		0.100	110	75	125		
Chromium	0.442		0.400	110	75	125		
Lead	1.08		1.00	108	75	125		
Selenium	1.11		1.00	111	75	125		
Silver	0.107		0.100	107	75	125		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Sample Duplicate
Sample ID: 0302041-01A D
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:18
Prep Batch ID: 10748

Units: mg/L
Seq No: 415647

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Arsenic	U						U	NC	20
Barium	1.17						1.14	3.1	20
Cadmium	0.236						0.228	3.6	20
Chromium	0.039J						0.039 J	0.18	20
Lead	2.24						2.15	4.1	20
Selenium	U						U	NC	20
Silver	0.0055J						0.0047 J	14	20

QC Type: Matrix Spike
Sample ID: 0302041-01A MS
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:22
Prep Batch ID: 10748

Units: mg/L
Seq No: 415648

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Arsenic	1.05	U	1.00	105	75	125			
Barium	1.34	1.14	0.200	99.6	75	125			
Cadmium	0.326	0.228	0.100	98.3	75	125			
Chromium	0.432	0.039 J	0.400	98.1	75	125			
Lead	3.15	2.15	1.00	99.7	75	125			
Selenium	1.08	U	1.00	108	75	125			
Silver	0.105	0.0047 J	0.100	100	75	125			

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Matrix Spike Duplicate
Sample ID: 0302041-01A MSD
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:25
Prep Batch ID: 10748

Units: mg/L
Seq No: 415649

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Arsenic	1.08	U	1.00	108	75	125	1.05	2.5	20
Barium	1.35	1.14	0.200	105	75	125	1.34	0.74	20
Cadmium	0.326	0.228	0.100	98.7	75	125	0.326	0.12	20
Chromium	0.432	0.039 J	0.400	98.2	75	125	0.432	0.11	20
Lead	3.17	2.15	1.00	102	75	125	3.15	0.65	20
Selenium	1.14	U	1.00	114	75	125	1.08	5.4	20
Silver	0.107	0.0047 J	0.100	102	75	125	0.105	1.7	20

QC Type: Pre-Preservation Spike
Sample ID: 0302041-01A S
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:32
Prep Batch ID: 10748

Units: mg/L
Seq No: 415650

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Arsenic	5.41	U	5.00	108	50				
Barium	10.8	1.14	10.0	96.8	50				
Cadmium	0.326	0.228	0.100	98.6	50				
Chromium	0.529	0.039 J	0.500	98.0	50				
Lead	2.69	2.15	0.500	107	50				
Selenium	5.53	U	5.00	111	50				
Silver	0.105	0.0047 J	0.100	100	50				

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

Quality Control Summary

Client: SCA Environmental

Project: TEAD SWMUs 56 & 52d

Project ID: B-5063

Report Number: 0302041-2

Date Reported: 03/20/03

Work Order: 0302041

QC Type: Post Digestion/Distillation Spike

Sample ID: 0302041-01A A

Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:38

Prep Batch ID: 10748

Units: mg/L

Seq No: 415651

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Arsenic	1.10	U	1.00	110	75	125		
Barium	1.34	1.14	0.200	101	75	125		
Cadmium	0.327	0.228	0.100	99.6	75	125		
Chromium	0.444	0.039 J	0.400	101	75	125		
Lead	3.19	2.15	1.00	104	75	125		
Selenium	1.18	U	1.00	118	75	125		
Silver	0.109	0.0047 J	0.100	104	75	125		

QC Type: Serial Dilution

Sample ID: 0302041-01A L

Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 13:44

Prep Batch ID: 10748

Units: mg/L

Seq No: 415652

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	%D	%D Limit
Arsenic	U						U	NC	10
Barium	1.16						1.14	2.2	10
Cadmium	0.237						0.228	4.1	10
Chromium	U						0.039 J	NC	10
Lead	2.18						2.15	1.2	10
Selenium	0.31J						U	NC	10
Silver	0.018JR(3a)						0.0047 J	280	10

3a: Duplicates not evaluated - matrix sample <10x the detection limit

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: TCLP Blank
Sample ID: TBLK-10701
Run ID: TJA-IRIS_030219A

Analysis Date: 02/19/03 16:01
Prep Batch ID: 10748

Units: mg/L
Seq No: 415666

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Arsenic	0.012	0	0	0	-0.06	0.25		
Barium	0.0196	0	0	0	-0.006	1.05		
Cadmium	-0.000040	0	0	0	-0.006	0.0055		
Chromium	0.0024	0	0	0	-0.02	0.03		
Lead	0.0091	0	0	0	-0.06	0.0375		
Silver	0.00070	0	0	0	-0.006	0.01		

QC Type: Method Blank
Sample ID: PBW-10748
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:06
Prep Batch ID: 10748

Units: mg/L
Seq No: 415676

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Cadmium	-0.00013	0	0	0	-0.008	0.004		
Lead	0.0098	0	0	0	-0.06	0.03		

QC Type: Laboratory Control Sample (Water)
Sample ID: LCSW-10748
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:09
Prep Batch ID: 10748

Units: mg/L
Seq No: 415677

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Cadmium	0.110		0.100	110	75	125		
Lead	1.08		1.00	108	75	125		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Sample Duplicate
Sample ID: 0302041-01A D
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:18
Prep Batch ID: 10748

Units: mg/L
Seq No: 415679

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Cadmium	0.236						0.228	3.6	20
Lead	2.24						2.15	4.1	20

QC Type: Matrix Spike
Sample ID: 0302041-01A MS
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:22
Prep Batch ID: 10748

Units: mg/L
Seq No: 415680

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Cadmium	0.326	0.228	0.100	98.3	80	120			
Lead	3.15	2.15	1.00	99.7	80	120			

QC Type: Matrix Spike Duplicate
Sample ID: 0302041-01A MSD
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:25
Prep Batch ID: 10748

Units: mg/L
Seq No: 415681

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD	RPD Limit
Cadmium	0.326	0.228	0.100	98.7	80	120	0.326	0.12	20
Lead	3.17	2.15	1.00	102	80	120	3.15	0.65	20

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Pre-Preservation Spike
Sample ID: 0302041-01A S
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:32
Prep Batch ID: 10748

Units: mg/L
Seq No: 415682

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Cadmium	0.326	0.228	0.100	98.6	50			
Lead	2.69	2.15	0.500	107	50			

QC Type: Post Digestion/Distillation Spike
Sample ID: 0302041-01A A
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:38
Prep Batch ID: 10748

Units: mg/L
Seq No: 415683

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Cadmium	0.327	0.228	0.100	99.6	75	125		
Lead	3.19	2.15	1.00	104	75	125		

QC Type: Serial Dilution
Sample ID: 0302041-01A L
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 13:44
Prep Batch ID: 10748

Units: mg/L
Seq No: 415684

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	%D Limit
Cadmium	0.237						0.228	4.1
Lead	2.18						2.15	1.2

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

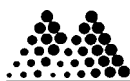
S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: TCLP Blank
Sample ID: TBLK-10701
Run ID: TJA-IRIS_030219B

Analysis Date: 02/19/03 16:01
Prep Batch ID: 10748

Units: mg/L
Seq No: 415698

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Cadmium	-0.000040	0	0	0	-0.006	0.0055		
Lead	0.0091	0	0	0	-0.06	0.0375		

QC Type: TCLP Blank
Sample ID: TBLK-10701
Run ID: TJA-IRIS_030220A

Analysis Date: 02/20/03 11:47
Prep Batch ID: 10748

Units: mg/L
Seq No: 415923

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Selenium	0.028	0	0	0	-0.08	0.05		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

SW-846 8081A: Pesticides (USACE), Extract

QC Type: Method Blank
Sample ID: MB-10753
Run ID: GC 6_030227A

Analysis Date: 02/27/03 13:29
Prep Batch ID: 10753

Units: µg/L
Seq No: 418560

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Chlordane	U	0	0	0		1		
Endrin	U	0	0	0		0.075		
gamma-BHC (Lindane)	U	0	0	0		0.05		
Heptachlor	U	0	0	0		0.05		
Heptachlor epoxide	U	0	0	0		0.05		
Methoxychlor	U	0	0	0		0.075		
Toxaphene	U	0	0	0		1		
Surrogates								
Decachlorobiphenyl	5.95	0	5.00	119	65	135		
Tetrachloro-m-xylene	3.43	0	5.00	68.5	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-10753
Run ID: GC 6_030227A

Analysis Date: 02/27/03 13:56
Prep Batch ID: 10753

Units: µg/L
Seq No: 418561

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Dieldrin	0.962		1.00	96.2	65	135		
Endrin	1.12		1.00	112	65	135		

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental

Project: TEAD SWMUs 56 & 52d

Project ID: B-5063

Report Number: 0302041-2

Date Reported: 03/20/03

Work Order: 0302041

QC Type: Laboratory Control Spike

Sample ID: LCS-10753

Run ID: GC 6_030227A

Analysis Date: 02/27/03 13:56

Prep Batch ID: 10753

Units: µg/L

Seq No: 418562

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	0.790		1.00	79.0	65	135		
4,4'-DDT	1.41 S(8a)		1.00	141	65	135		
gamma-BHC (Lindane)	0.988		1.00	98.8	65	135		
Heptachlor	0.891		1.00	89.1	65	135		

Surrogates

Decachlorobiphenyl	5.78		5.00	116	65	135
--------------------	------	--	------	-----	----	-----

Tetrachloro-m-xylene	3.61		5.00	72.1	65	135
----------------------	------	--	------	------	----	-----

8a: See sample comments.

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

QC Type: Matrix Spike

Sample ID: 0302041-03AMS

Run ID: GC 6_030227A

Analysis Date: 02/27/03 14:50

Prep Batch ID: 10753

Units: µg/L

Seq No: 418565

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Endrin	4.64	U	4.00	116	65	135		

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Matrix Spike
Sample ID: 0302041-03AMS
Run ID: GC 6_030227A

Analysis Date: 02/27/03 14:50
Prep Batch ID: 10753

Units: µg/L
Seq No: 418566

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Aldrin	3.54	U	4.00	88.4	65	135		
4,4'-DDT	6.14 S(8a)	U	4.00	153	65	135		
Dieldrin	3.96	U	4.00	98.9	65	135		
gamma-BHC (Lindane)	4.08	U	4.00	102	65	135		
Heptachlor	3.86	U	4.00	96.6	65	135		
Surrogates								
Decachlorobiphenyl	22.6	0	20.0	113	65	135		
Tetrachloro-m-xylene	15.6	0	20.0	78.2	65	135		

8a: See sample comments.

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

QC Type: Matrix Spike Duplicate
Sample ID: 0302041-03AMSD
Run ID: GC 6_030227A

Analysis Date: 02/27/03 15:17
Prep Batch ID: 10753

Units: µg/L
Seq No: 418567

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Endrin	4.82	U	4.00	121	65	135	4.64	3.9 20

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMUs 56 & 52d
Project ID: B-5063

Report Number: 0302041-2
Date Reported: 03/20/03
Work Order: 0302041

QC Type: Matrix Spike Duplicate
Sample ID: 0302041-03AMSD
Run ID: GC 6_030227A

Analysis Date: 02/27/03 15:17
Prep Batch ID: 10753

Units: µg/L
Seq No: 418568

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit	
Aldrin	3.69	U	4.00	92.2	65	135	3.54	4.2	20
4,4'-DDT	6.40 S(8a)	U	4.00	160	65	135	6.14	4.1	20
Dieldrin	4.07	U	4.00	102	65	135	3.96	3.0	20
gamma-BHC (Lindane)	4.21	U	4.00	105	65	135	4.08	3.1	20
Heptachlor	4.07	U	4.00	102	65	135	3.86	5.2	20
Surrogates									
Decachlorobiphenyl	20.4	0	20.0	102	65	135			
Tetrachloro-m-xylene	16.0	0	20.0	80.0	65	135			

8a: See sample comments.

Sample Comments: The recovery for 4,4-DDT shows a slightly high bias. Samples were unaffected.

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental

Project: TEAD SWMUs 56 & 52d

Project ID: B-5063

Report Number: 0302041-2

Date Reported: 03/20/03

Work Order: 0302041

QC Type: TCLP Blank

Sample ID: BF-10702

Run ID: GC 6_030227A

Analysis Date: 02/27/03 16:11

Prep Batch ID: 10753

Units: µg/L

Seq No: 418580

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD RPD Limit
Chlordane	U	0	0	0		0.4		
Endrin	U	0	0	0		0.04		
gamma-BHC (Lindane)	U	0	0	0		0.04		
Heptachlor	U	0	0	0		0.04		
Heptachlor epoxide	U	0	0	0		0.04		
Methoxychlor	U	0	0	0		0.04		
Toxaphene	U	0	0	0		2		
Surrogates								
Decachlorobiphenyl	28.1	0	20.0	141	19	145		
Tetrachloro-m-xylene	15.5	0	20.0	77.6	30	112		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



1645 West 2200 South • Salt Lake City, UT 84119 • 800-973-6724 • Fax 801-972-6278
Website: www.msai-labs.com E-mail: service@msai-labs.com

Mountain States Analytical, Inc.

Bill To LAGUNA CONSTRUCTION

26348

Sample Chain of Custody
Analysis Request Form

Company/Client: SCA / LAGUNA		Sampler(s): C. Serrano		
Project Name: SWMU SC/52D		Quote #:		
Project No.: B-5063		P.O. #: B-5063		
Sample Identification		Date Collected		
1	BIN4939-1	2-4-03	1345	
2	BIN4949-1	2-4-03	1600	
3	RINS6-2	2-4-03	1700	
4	BIN5177-1	2-5-03	1715	
5	BIN4867-1	2-5-03	1720	
6				
7	SWMU52D-CS-15-2	2-5-03	1630	
8	SWMU52D-CS-16-2	2-5-03	1645	
9	SWMU52D-CS-17-3.5	2-5-03	1700	
10				
11	RINS52D-2	2-5-03	1730	
12				
13				
Relinquished By		Date	Time	Received By
1		2-6-03	0945	Mr. Ford
2				
3				
Contact Information		Turnaround Time:		
Reports To: KENN CONNER		Standard		
E-mail: kconner@scs-enviro.com		Rush*		
Phone: (510) 645-6236 #412		Days(s)		
Fax: (510) 839-6200				
Address: 334 19th St.				
Oakland, CA 94612				
Preservative:		Chilled to 4°C		
2 - HNO ₃		3 - H ₂ SO ₄		
4 - Na ₂ S ₂ O ₈		5 - HCl		
6 - NaOH		7 - NaOH/ZnAC		
8 - Other				
Comments/Special Instructions:		MSAI Use		
		W.O. #		
		LOC		
		13A2		
		13A3		

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0302041
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____

Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____

Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: White/Red Surface Radioactivity Reading (if required) _____ mR/hr

Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____

Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐

Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____

State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐

Thermometer ID: 6171 Reading: 1 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐

Packing Description: Ice.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____

COC Number(s): 26398, 25734, 25738

COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐

COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐

Notes: _____

Sample Information:

Samples included in cooler:	1	2	3	4
<u>BTN 5382-1</u>	<u>5084-1</u>	<u>SWMV56-CS-31-4</u>	<u>-36-2</u>	
<u>4927-1</u>	<u>5202-1</u>	<u>-32-4</u>	<u>-37-2</u>	
<u>5039-1</u>		<u>-33-1</u>	<u>-38-2</u>	
<u>4880-1</u>		<u>-34-1</u>	<u>-39-1</u>	
<u>5066-1</u>		<u>-35-1</u>		

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other: _____
Intact ☐ Broken ☐ Seal Number(s): _____

Sample containers intact: Yes ☒ No ☐ Notes: _____

Samples in proper containers: Yes ☒ No ☐ _____

Sufficient sample volume: Yes ☒ No ☐ _____

All samples received in hold time: Yes ☒ No ☐ _____

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒

Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒
HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

[Signature] Date: 2/6/03 Time: 1005 Reviewed by: LAP Date: 2/6/03

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0302041
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: CLARINE 2 Surface Radioactivity Reading (if required) _____ mR/hr
Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Thermometer ID: 6171 Reading: 3 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐

Packing Description: Ice

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 26348
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: BIN4939-1 SWMUS20-CS-15-2
4949-1 -16-2
RIN56-2 -17-3.5
BIN5177-1 RIN5520-2
BIN4867-1

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☒ Adjusted (see comments below) ☐ Not Applicable ☐
HNO₃ = 42 H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

[Signature] Date: 2/6/03 Time: 1005 Reviewed by: CAF Date: 2/6/03

June 03, 2003

Kenn Conner
SCA Environmental
80 Grand Ave.
Fourth Floor
Oakland, CA 94612
(510) 645-6236 Fax: (510) 839-6200

Project: TEAD SWMU 52D

Work Order: 0305188

Project ID: B-5063

Dear Kenn Conner,

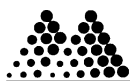
Thank you for using Mountain States Analytical, LLC (MSA) as your environmental information resource. Our reports are designed to meet the Certified Laboratory Reporting Requirements of Utah Administrative Code R444-14-12(10) and the National Environmental Laboratory Accreditation Program (NELAP), Section 5.13.

This is Report Number 0305188-1 and contains 9 pages of information for the 4 samples submitted to MSA between Wednesday, May 28, 2003 and Thursday, May 29, 2003. Any sample receipt documentation detailed in the Work Order Receipt Summary of this report (e.g., Chain-of-Custody, Work Order Authorization, etc.) and/or analytical results noted as "see attached " are included by reference as attachments following page 9. For regulatory compliance reporting, individual pages or portions of this report may not be separated. Except as noted, the test results for the methods and parameters listed on MSA's most recent NELAC certification letter meet all requirements of NELAC.

If you have any questions regarding the information contained in this report, please feel free to contact me at (800)973-6724 ext. 3026 or by e-mail at rlarsen@msalabs.net.

Mountain States Analytical, LLC

Rolf E. Larsen
Senior Project Manager



Sample Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5063

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188

Lab Sample ID	Client Sample ID	Additional Sample Information	Matrix	Date Collected
0305188-01A	BIN 5123-1		Solid	05/28/03
0305188-01B	SDG: SCA-17			06/17/03
0305188-02A	BIN 4380-1		Solid	05/28/03
0305188-03A	SWMU52D-LS-18-4.5		Solid	05/28/03
0305188-04A	SWMU52D-LS-19-4.5		Solid	05/29/03

**Holding Time Summary**

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5063

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188

Sample ID	Client Sample ID	Date Collected						
0305188-01A	BIN 5123-1	05/28/03 13:45						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 10:42		40
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 10:42		40
Pesticides (USACE)				06/02/03 11:00	14	06/02/03 23:46		40
Pesticides (USACE)				06/02/03 11:00	14	06/02/03 23:46		40
0305188-02A	BIN 4380-1	05/28/03 14:50						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 11:09		40
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 11:09		40
0305188-03A	SWMU52D-LS-18-4.5	05/28/03 15:05						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 11:36		40
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 11:36		40
0305188-04A	SWMU52D-LS-19-4.5	05/29/03 10:55						
Leachate								
Parameter	Start Date	End Date	HT	Prep Date	HT	Analysis Date	HT	
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 12:03		40
Pesticides (USACE)				06/02/03 11:00	14	06/03/03 12:03		40

* - The recommended holding time was exceeded

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5063
Purchase Order:

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188
Lab Sample ID: 0305188-01A
Client Sample ID: BIN 5123-1
Date Collected: 05/28/03
Date Received: 05/28/03 16:30
Matrix: Solid
COC ID: 27095

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	987	10	250	µg/Kg	5	06/03/03 10:42	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	133		65-135	% Recovery	5	06/03/03 10:42	PWK
Decachlorobiphenyl	130		65-135	% Recovery	1	06/02/03 23:46	PWK
Tetrachloro-m-xylene	96.4		65-135	% Recovery	5	06/03/03 10:42	PWK
Tetrachloro-m-xylene	88.9		65-135	% Recovery	1	06/02/03 23:46	PWK

Note for 06/03/03 10:42 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 11405 06/02/03 11:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5063
Purchase Order:

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188
Lab Sample ID: 0305188-02A
Client Sample ID: BIN 4380-1
Date Collected: 05/28/03
Date Received: 05/28/03 16:30
Matrix: Solid
COC ID: 27095

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	901	10	250	µg/Kg	5	06/03/03 11:09	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	126		65-135	% Recovery	5	06/03/03 11:09	PWK
Tetrachloro-m-xylene	90.6		65-135	% Recovery	5	06/03/03 11:09	PWK

Note for 06/03/03 11:09 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 11405 06/02/03 11:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5063
Purchase Order:

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188
Lab Sample ID: 0305188-03A
Client Sample ID: SWMU52D-LS-18-4.5
Date Collected: 05/28/03
Date Received: 05/28/03 16:30
Matrix: Solid
COC ID: 27095

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	627	10	250	µg/Kg	5	06/03/03 11:36	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	134		65-135	% Recovery	5	06/03/03 11:36	PWK
Tetrachloro-m-xylene	95.5		65-135	% Recovery	5	06/03/03 11:36	PWK

Note for 06/03/03 11:36 analysis: Sample diluted due to high levels of target compounds.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 11405 06/02/03 11:00 TJ

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

* - Result is greater than the associated action level

Client: Kenn Conner
 SCA Environmental
 80 Grand Ave.
 Fourth Floor
 Oakland, CA 94612
 (510) 645-6236 Fax: (510) 839-6200
Project: TEAD SWMU 52D
Project ID: B-5063
Purchase Order:

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188
Lab Sample ID: 0305188-04A
Client Sample ID: SWMU52D-LS-19-4.5
Date Collected: 05/29/03
Date Received: 05/29/03 18:50
Matrix: Solid
COC ID: 27095

Parameter	Result	MDL	PQL	Units	DF	Date Analyzed	Analyst
SW-846 8081A: Pesticides (USACE), Solid							
Chlordane	830	10	250	µg/Kg	5	06/03/03 12:03	PWK
Surrogates		Recovery Range					
Decachlorobiphenyl	135 S (8a)	65-135		% Recovery	5	06/03/03 12:03	PWK
Tetrachloro-m-xylene	96.8	65-135		% Recovery	5	06/03/03 12:03	PWK

Note for 06/03/03 12:03 analysis: Sample diluted due to high levels of target compounds. Surrogate recovery out due to rounding.
 8a: See sample comments.

SW-846 3550B: Ultrasonic Extraction, Pest, Solid

Prep Batch ID: 11405
 06/02/03 11:00 TJ

U - Not detected above the MDL
 J - Analyte detected below the PQL
 * - Result is greater than the associated action level

B - Analyte detected in the associated Method Blank
 E - Result is outside of quantitation range

S - Results outside normal recovery limits
 R - RPD outside normal precision limits

**Quality Control Summary**

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5063

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188

SW-846 8081A: Pesticides (USACE), Solid

QC Type: Method Blank
Sample ID: MB-11405
Run ID: GC 6_030602A

Analysis Date: 06/02/03 22:52
Prep Batch ID: 11405

Units: µg/Kg
Seq No: 446540

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	U	0	0	0		2		
Surrogates								
Decachlorobiphenyl	217	0	167	130	65	135		
Tetrachloro-m-xylene	146	0	167	87.6	65	135		

QC Type: Laboratory Control Spike
Sample ID: LCS-11405
Run ID: GC 6_030602A

Analysis Date: 06/02/03 23:19
Prep Batch ID: 11405

Units: µg/Kg
Seq No: 446542

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	123		167	73.6	65	135		
Surrogates								
Decachlorobiphenyl	221		167	132	65	135		
Tetrachloro-m-xylene	148		167	88.5	65	135		

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

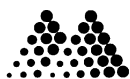
S - Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Quality Control Summary

Client: SCA Environmental
Project: TEAD SWMU 52D
Project ID: B-5063

Report Number: 0305188-1
Date Reported: 06/03/03
Work Order: 0305188

QC Type: Matrix Spike
Sample ID: 0305188-01AMS
Run ID: GC 6_030602A

Analysis Date: 06/03/03 00:13
Prep Batch ID: 11405

Units: µg/Kg
Seq No: 446546

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	1070	926	167	85.4	65	135		
Surrogates								
Decachlorobiphenyl	219	0	167	131	65	135		
Tetrachloro-m-xylene	146	0	167	87.6	65	135		

QC Type: Matrix Spike Duplicate
Sample ID: 0305188-01AMSD
Run ID: GC 6_030602A

Analysis Date: 06/03/03 00:40
Prep Batch ID: 11405

Units: µg/Kg
Seq No: 446548

Parameter	Result	Spike Parent	True Value	Percent Recovery	Low Limit	High Limit	Duplicate Parent	RPD Limit
Chlordane	910S(2s)	926	167	-9.83	65	135	1070	16 35
Surrogates								
Decachlorobiphenyl	223	0	167	133	65	135		
Tetrachloro-m-xylene	148	0	167	88.8	65	135		

2s: High level of target analyte in parent sample - spike is insignificant

U - Not detected above the MDL

B - Analyte detected in the associated Method Blank

S -Results outside normal recovery limits

J - Analyte detected below the PQL

E - Result is outside of quantitation range

R - RPD outside normal precision limits

NC - Not Calculated: Duplicate value(s) are less than the MDL



Mountain States Analytical, Inc.

1645 West 2200 South • Salt Lake City, UT 84119 • 800-973-6724 • Fax 801-972-6278
Website: www.msaiabs.com E-mail: service@msaiabs.com

Sample Chain of Custody
Analysis Request Form

27095

Company/Client: SCA		Sampler(s): Ted & Pam	
Project Name: SWMU 52D		Quote #:	
Project No.: B-5063		P.O.#:	
Sample Identification			
1	BIN 5123-1	Date Collected	Time Collected
2	BIN 4380-1	5/26/03	1345
3	SWMU 52D-LS-18-4.5	1450	1505
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
Relinquished By		Date	Time
[Signature]		5/28/03	1630
Received By		Date	Time
[Signature]			
Relinquished By		Date	Time
Received By		Date	Time
Contact Information		Turnaround Time:	
Reports To: Kern Conner		Standard <input checked="" type="checkbox"/> Rush* <input checked="" type="checkbox"/> 1 Days(s)	
E-mail: kconner@sla-enviro.com		Preservative:	
Phone: (510) 645-6236 x412		1 - Chilled to 4°C	
Fax: (510) 834-6200		2 - HNO ₃	
Address: 334 19th St		3 - H ₂ SO ₄	
Oakland, CA 94612		4 - Na ₂ SO ₃	
		5 - HCl	
		6 - NaOH	
		7 - NaOH/ZnAC	
		8 - Other	
Comments/Special Instructions:		MSAI Use	
Please have results by 12-pm on Friday 5/30/03.		W.O. # 0805188	
		LOC 4-83	



1645 West 2200 South • Salt Lake City, UT 84119 • 800-973-6724 • Fax 801-972-6278

Website: www.msailabs.com E-mail: service@msailabs.com

B.T. to Laguna
construction

27096

Sample Chain of Custody Analysis Request Form

Company/Client: SCA		Sampler(s): Seed Bar		Analysis Request	
Project Name: B-5063/B-5064		Quote #: 			
Project No.: TEAD SWMU 520/56PO.#:					
Sample Identification		Date Collected	Time Collected	Type	Matrix
1	SWMU 520-C5-19-4.5	5/26/03	1055	Grab	
2	BIN 5066-1	5/29/03	1250	Composite	X
3	BIN 5039-1	5/29/03	1310	Solid	X
4	BIN 3154-1	5/29/03	1330	Aqueous	X
5	RINS 56-5	5/29/03	1349	Organic Liquid	X
6	BIN 4927-1	5/29/03	1410	Multi-phase	X
7	BIN 5148-1	5/29/03	1440		X
8	BIN 3164-1	5/29/03	1650		X
9					
10					
11					
12					
13					
Relinquished By		Date	Time	Received By	
[Signature]		5/29/03	1850	[Signature]	
Contact Information		Turnaround Time:			
Reports To: Kevin Kiam Corner		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Day(s)			
E-mail: kevin@scs-ca.com		Preservative: <input checked="" type="checkbox"/> Chilled to 4°C			
Phone: (570) 645-6239 x412		1 - HNO ₃			
Fax: (570) 839-6220		3 - H ₂ SO ₄			
Address: 324 19th St		4 - Na ₂ S ₂ O ₃			
Danland, CA 94612		5 - HCl			
		6 - NaOH			
		7 - NaOH/ZnAc			
		8 - Other			
		MSAI Use			
		W.O. #			
		LOC			
		483			
		12 pm			
		Standard TAT is fine, but			
		Please rush SWMU520-C5-19-4.5			
		for results by Monday 6/2 12pm.			

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA

Work Order No. 0305188

Carrier: Client

Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____

Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____

Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____

Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: 16732 Surface Radioactivity Reading (if required) _____ mR/hr

Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____

Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐

Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____

State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐

Thermometer ID: 3601 Reading: 1.0 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐

Packing Description: Sample containers in a ziplock bag inside a cooler filled with ice.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____

COC Number(s): 27095

COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐

COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐

Notes: _____

Sample Information:

Samples Included in cooler: BIN 5123-1

BIN 4380-1

SWM 1520-LS-18-4.5

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other: _____

Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: Rush (1-Dry)

Samples in proper containers: Yes ☒ No ☐

Sufficient sample volume: Yes ☒ No ☐

All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒

Pre-preserved with HCl: ☐

Pre-preserved with Na2S2O3: ☐

Non-Preserved: ☐

Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☐ Not Applicable ☒

HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)

HNO₃ _____ H₂SO₄ _____ NaOH _____

ZnAC _____ Na₂SO₃ _____ Other _____

Notes: _____

Cooler Contents Inspected & Verified By:

David Patten

Date: 5-28-05

Time: 1640

Reviewed by: DKO

Date: 5/28/05

Mountain States Analytical, LLC

Sample Receipt Checklist

Client Name: SCA
Carrier: Client

Work Order No. 0305188
Carrier Number: _____

Cooler Information: Non-Rad ☒ Exempt ☐ White I ☐ Yellow II ☐ Yellow III ☐ ALARA: α _____ / β _____
Ludlum Model 3 Serial # _____ Ludlum Model 2929 Scaler Serial # _____
Smear Results: Cooler: α _____ / β _____ Inner Pkg: α _____ / β _____ Samples: α _____ / β _____
Transport Index (1 meter reading for Yellow II & III only) _____ mR/hr

Cooler Number/ID: 213 Surface Radioactivity Reading (if required) _____ mR/hr
Condition of Shipping Container: Good ☒ Fair ☐ Damaged (explain) _____
Cooler Sealed (taped): Yes ☐ No ☒ Not Applicable ☐ PID Reading _____ ppm
Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐
Intact ☐ Broken ☐ Seal Number: _____

Coolant: Ice ☒ Blue Ice ☐ None ☐ Other: _____
State of Coolant: Frozen ☒ Partially Frozen ☐ Melted ☐
Thermometer ID: 6171 Reading: 0 °C CF: 0 Corrected Temp: _____ °C Temp Blank Included: Yes ☒ No ☐
(Temp recorded 5/29/03 @ 1900)
Packing Description: Ice used for packing.

Chain-Of-Custody Information:

COC Present: Yes ☒ No ☐ Other: _____
COC Number(s): 27096
COC signed (relinquished and received): Yes ☒ No ☐ Not Applicable ☐
COC agrees with sample labels: Yes ☒ No ☐ Not Applicable ☐
Notes: _____

Sample Information:

Samples included in cooler: S4/MUS21-CS-19-4-5 BIN 4927-1
BIN 5066-1 BIN 5198-1
BIN 5039-1 BIN 3164-1
BIN 3154-1
RMS 56-5

Custody Seals Present: Yes ☐ No ☒ Not Applicable ☐ Other _____
Intact ☐ Broken ☐ Seal Number(s) _____

Sample containers intact: Yes ☒ No ☐ Notes: _____
Samples in proper containers: Yes ☒ No ☐
Sufficient sample volume: Yes ☒ No ☐
All samples received in hold time: Yes ☒ No ☐

Water - VOA's have zero headspace: Yes ☐ No ☐ Not Applicable ☒
Pre-preserved with HCl: ☐ Pre-preserved with Na2S2O3: ☐ Non-Preserved: ☐
Notes: _____

Water - pH acceptable upon receipt: Yes ☐ Adjusted (see comments below) ☒ Not Applicable ☒
HNO₃ = _____ H₂SO₄ = _____ NaOH = _____ ZnAC / NaOH = _____ HCL = _____

Water - pH adjusted: (MSA Tracking No.)
HNO₃ 6222 H₂SO₄ _____ NaOH _____
ZnAC _____ Na₂SO₃ _____ Other _____

Notes: pH: ~ 7, after 1 mL HNO₃, pH ≈ < 2 for Pb and Antimony analysis.

Cooler Contents Inspected & Verified By:

Justin Gaudin Date: 5/30/03 Time: 0830 Reviewed by: JA Date: 5/30/03

APPENDIX C

Photograph Log

Photo Log for Removal Action at SWMU 52D
Tooele Army Depot (TEAD), Tooele, Utah

1. Site Entrance I (October 2001)
2. Site Entrance II (October 2001)
3. Site Closeup (October 2001)
4. Site Surroundings Closeup (October 2001)
5. Marking the Area I (October 2001)
6. Marking the Area II (October 2001)
7. Marking the Area III (October 2001)
8. Marking the Area IV (October 2001)
9. After Marking (October 2001)
10. Vehicle Tracks Through Site (November 2002)
11. Site Closeup (November 2002)
12. Ready to Excavate (November 2002)
13. Site Closeup (Pre-Excavation) I (May/June 2003)
14. Site Closeup (Pre-Excavation) II (May/June 2003)
15. Setting Survey Control Point #1 (May/June 2003)
16. Survey Control Point #1 (May/June 2003)
17. View North Along Tracks Toward Survey Control Point #2 (May/June 2003)
18. Survey Control Point #2 (May/June 2003)
19. Backfilling Begins (May/June 2003)
20. Backfilling I (May/June 2003)
21. Backfilling II (May/June 2003)
22. Final Grading (May/June 2003)
23. Backfilling Complete (May/June 2003)

Photo 1: Site Entrance I (October 2001)



Photo 2: Site Entrance II (October 2001)



Photo 3: Site Closeup (October 2001)



Photo 4: Site Surroundings Closeup (October 2001)



Photo 5: Marking the Area I (October 2001)



Photo 6: Marking the Area II (October 2001)



Photo 7: Marking the Area III (October 2001)



Photo 8: Marking the Area IV (October 2001)



Photo 9: After Marking (October 2001)



Photo 10: Vehicle Tracks Through Site (November 2002)



Photo 11: Site Closeup (November 2002)



Photo 12: Ready to Excavate (November 2002)



Photo 13: Site Closeup (Pre-Excavation) I (May/June 2003)



Photo 14: Site Closeup (Pre-Excavation) II (May/June 2003)



Photo 15: Setting Survey Control Point #1 (May/June 2003)



Photo 16: Survey Control Point #1 (May/June 2003)



Photo 17: View North Along Tracks Toward Survey Control Point #2 (May/June 2003)



Photo 18: Survey Control Point #2 (May/June 2003)



Photo 19: Backfilling Begins (May/June 2003)



Photo 20: Backfilling I (May/June 2003)



Photo 21: Backfilling II (May/June 2003)



Photo 22: Final Grading (May/June 2003)



Photo 23: Backfilling Complete (May/June 2003)



APPENDIX D

Bin Lists and Manifests

SWMU 52D Master Bin List

Waste Stream ID

15873

Bin #	Label #	Filled On-Site	Removal from Site	Disposal at Facility	Manifest No.	Total Weight (tons)	Non-Haz Weight	Haz Weight	Hazardous?
5067	RSCAZ0232301	11/21/02	2/4/2003	2/6/2003	L3016	11.35	11.35	0	No
9084	RSCAZ0232327	11/26/02	2/4/2003	2/7/2003	L3017	16.31	16.31	0	No
5177	RSCAZ0303504	02/05/03	4/24/2003	4/25/2003	L3045	15.17	15.17	0	No
4867	RSCAZ0303505	02/05/03	4/24/2003	4/25/2003	L3044	8.69	8.69	0	No
4380	RSCAZ0314802	05/28/03	8/4/2003	8/7/2003	L3048	4.63	4.63	0	No
5123	RSCAZ0314801	05/28/03	8/4/2003	8/23/2003	L3049	12.54	12.54	0	No
Total tons						68.69	68.69	0	

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <u>3920894</u>		Manifest Document No. <u>2016</u>		2. Page 1 of 1	
3. Generator's Name and Mailing Address <u>Building 48</u> <u>Forced, UT 84074</u>							
4. Generator's Phone ()							
5. Transporter 1 Company Name <u>WASTE SERVICES</u>		6. US EPA ID Number		A. State Transporter's ID <u>877 600 5111</u>			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone			
9. Designated Facility Name and Site Address <u>10.5 miles NW on Hwy 78, Lemley Rd</u> <u>Grand View, ID 83624</u>		10. US EPA ID Number <u>IDD 073 114 634</u>		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. <u>Non-Hazardous Waste W.O.B.</u>						<u>1/15</u>	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above <u>WASTE 15023</u> <u>For Emergency Processing Contact DOT 895 171</u> <u>24-hour Emergency Contact Number: 405 635-2016</u>				H. Handling Codes for Wastes Listed Above <u>EXCISE</u>			
15. Special Handling Instructions and Additional Information							
<div style="border: 2px solid black; padding: 5px; text-align: center;"> NON-HAZARDOUS WASTE </div>							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name <u>Laurel McFarland</u>				Signature <u>[Signature]</u>		Date <u>02/04/03</u>	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <u>[Signature]</u>		Date <u>02/04/03</u>	
Printed/Typed Name <u>Monty M. S. KRET</u>				Signature <u>[Signature]</u>		Date <u>02/04/03</u>	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Date	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.							
Printed/Typed Name				Signature		Date	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on 12 pitch typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. UT 027 0020004		Manifest Document No. L 3017		2. Page 1 of 1	
3. Generator's Name and Mailing Address Building # 8 Tucson, UT 84074							
4. Generator's Phone ()							
5. Transporter 1 Company Name CAT		6. CAT US EPA ID Number UT 027 0020007		A. State Transporter's ID UT 027 0020007		B. Transporter 1 Phone	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID		D. Transporter 2 Phone	
9. Designated Facility Name and Site Address 10.5 miles NW on Hwy 79, Lenday Rd Granite View, ID 83024		10. US EPA ID Number ID 073 114 654		E. State Facility's ID		F. Facility's Phone	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-Hazardous Waste H.O.S.				1		CR	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above WIDE 1087-3 For Emergency Procedures Contact DOT ERG 171 24-hour Emergency Contact Number: 435 630-2016				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name LARRY McFarland				Signature Larry McFarland		Date 02/04/03	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature Anthony		Date 02/04/03	
Printed/Typed Name Anthony				Signature Anthony		Date 02/04/03	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature V		Date	
Printed/Typed Name				Signature		Date	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.							
Printed/Typed Name				Signature		Date	

NON-HAZARDOUS WASTE

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. UT3213030004		Manifest Document No. 1-400		2. Page 1 of 1	
3. Generator's Name and Mailing Address Fourth Army Depot Building # 8 Tooele, UT 84074							
4. Generator's Phone () 435 552-2333							
5. Transporter 1 Company Name ECO Environmental Services		6. US EPA ID Number CAT 000 624 247		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 801 883-5111			
9. Designated Facility Name and Site Address US Ecology Rehab, Inc. 10 S rdwy NW on Hwy 78, Lonsay Rd Grand View, ID 83024		10. US EPA ID Number ID0 073 114 654		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone 801-274-1616			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit Wt./Vol.	
a. Non-Hazardous Waste #103				1		P	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above VISION: 10870 For Emergency Procedures Contact DOT EPC: 177 24-hour Emergency Contact Number: 435 823-3018				H. Handling Codes for Wastes Listed Above 5177			
15. Special Handling Instructions and Additional Information							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name Mark D. Smith				Signature [Signature]		Date Month Day Year 01/01/03	
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name JOE R. [Signature]		Signature [Signature]	
						Date Month Day Year 01/01/03	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name		Signature	
						Date Month Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator, Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.							
Printed/Typed Name				Signature		Date Month Day Year	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. UT 33-13320894		Manifest Document No. L 444		2. Page 1 of 1	
3. Generator's Name and Mailing Address Tosco Army Depot Building #8 Truck UT 84074							
4. Generator's Phone () 800-255-2551							
5. Transporter 1 Company Name MAP Environmental Services		6. US EPA ID Number CAT 000 634 247		A. State Transporter's ID			
				B. Transporter 1 Phone 817 803-5111			
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address US Ecology Center, Inc. 10.5 miles NW on Hwy 70, Letley Rd Grand View, ID 83624		10. US EPA ID Number IDD 073 114 684		E. State Facility's ID			
				F. Facility's Phone 800-274-1510			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit Wt./Vol.	
a. Non-Hazardous Waste N.O.S.				1 DR		2400	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above WASTE 15070 For Emergency Procedures Consult DOT EPC: 171 24-hour Emergency Contact Number: 202 803-2015				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name M. L. D. Smith				Signature [Signature]		Date Month 09 Day 25 Year 2011	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature [Signature]		Date Month 09 Day 25 Year 2011	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
19. Discrepancy Indication Space							
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.				Signature		Date	
Printed/Typed Name				Signature		Date Month Day Year	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. UT 77 800 5111

Manifest Document No.

2. Page 1 of

3. Generator's Name and Mailing Address

Building # 2
Tropic, UT 84074

4. Generator's Phone ()

5. Transporter 1 Company Name WASTE SERVICE

6. US EPA ID Number

A. State Transporter's ID UT 77 800 5111

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address

10.5 miles NW on Hwy 70, Lemley Rd
Grand View, UT 84024

10. US EPA ID Number 100 872 114 584

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION

a. Non-hazardous Waste H.D.E.

12. Containers
No. Type

13. Total Quantity

14. Unit Wt./Vol.

1

DR

34,000

b.

c.

d.

G. Additional Descriptions for Materials Listed Above

Waste 12873
For Emergency Procedures Contact DCH ERG: 171
24-hour Emergency Contact Number 435 533-2015

H. Handling Codes for Wastes Listed Above

BIN 4380

WASTE 52D

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name

Signature

Date

Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date

Month Day Year

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on ellipse (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. UT 073 114 054		Manifest Document No.		2. Page 1 of 1	
3. Generator's Name and Mailing Address Building # 0 Tucson, UT 84074							
4. Generator's Phone ()							
5. Transporter 1 Company Name Environmental Services		6. CAT US EPA ID Number CAT 000000000		A. State Transporter's ID 877 500 5111			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone			
9. Designated Facility Name and Site Address 10 S miles NW on Hwy 16, Lander Rd Grand View, ID 83824		10. US EPA ID Number ID 073 114 054		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit Wt./Vol.	
a. Non-Hazardous Waste M.D.E.				1		4000	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above BIN# 5123 For Emergency Procedures Contact DOT ERG 171 24-hour Emergency Contact Number: 405 633-2016 SWMU 520				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name				Signature		Date Month Day Year	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date Month Day Year	
Printed/Typed Name				Signature		Date Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date Month Day Year	
Printed/Typed Name				Signature		Date Month Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.							
Printed/Typed Name				Signature		Date Month Day Year	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

APPENDIX E

Clean Fill Letter



Staker & Parson
COMPANIES
THE PREFERRED SOURCE

June 5, 2003

Laguna Construction
P.O. Box 206
Laguna, New Mexico 87026

ATTN: Mr. Nevin Poncho

PROJECT: Tooele Army Depot

Gentlemen:

Please be advised we are supplying the aggregate materials for the above referenced project from the Bauer Pit in Tooele, Utah.

This pit has been utilized as a commercial source for over thirty years to provide concrete and asphalt aggregates, road base, and various other construction aggregates.

There has never been any discovery of contaminants in any of the on-site material.

We are hereby certifying that the material we are providing for your project will be free from any known contaminants.

Sincerely,

Hank Regulski
Material Sales Rep.
801-430-3829

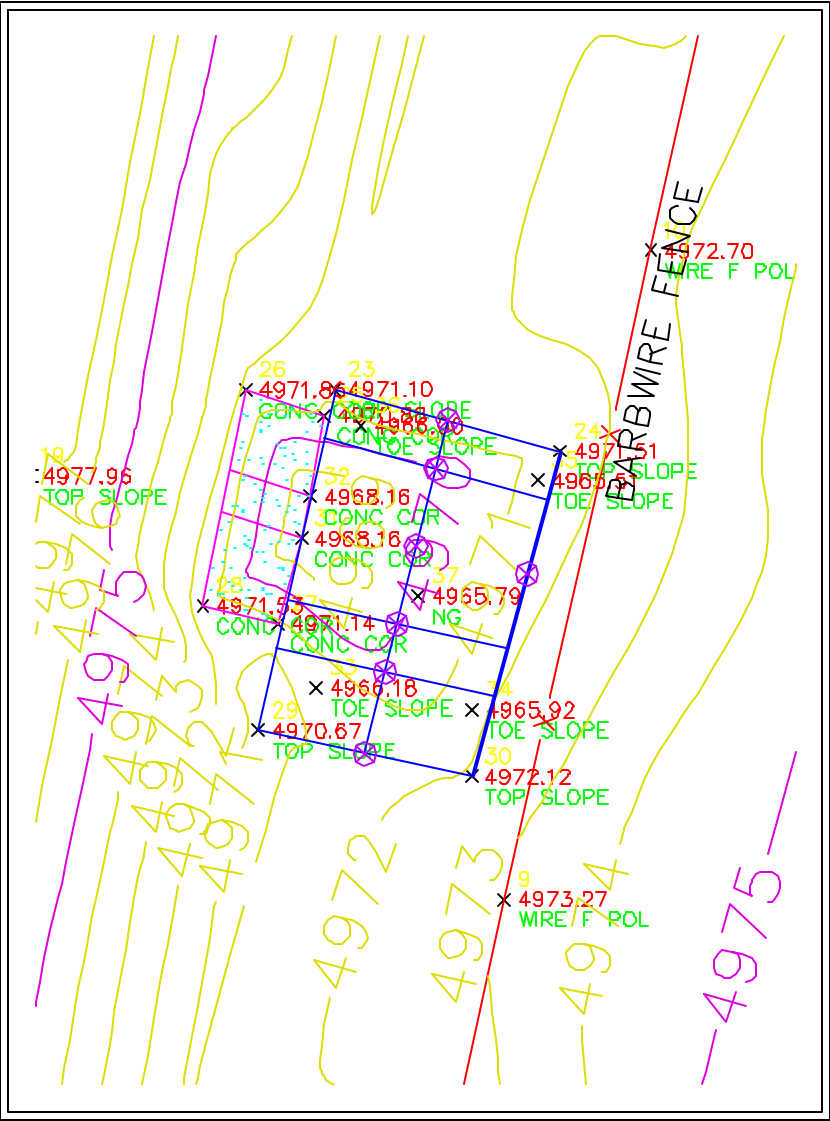
APPENDIX F

Survey Information

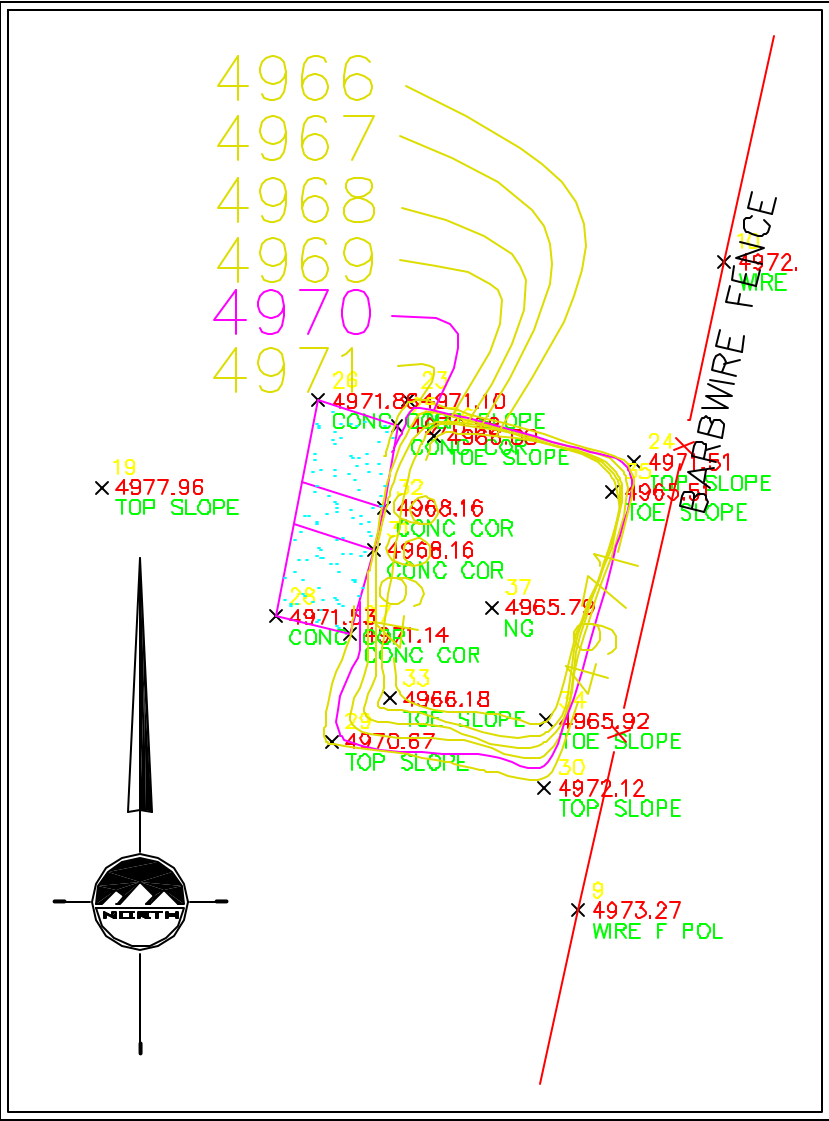
(see attached disk for Survey Electronic File)

COMPOSITE VOLUME
NET=36 YARDS OF SOIL REMOVED FROM SITE

SURFACE BEFORE EXCAVATION



SURFACE AFTER EXCAVATION



GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

**SURVEYORS
CERTIFICATE**

I, Dusty L. Bishop, do hereby certify that I am a Registered Professional Land Surveyor in the State of Utah, and that I hold certificate No. 4938720 as prescribed by the laws of the State of Utah and represent that I have conducted a topographic survey of the following described property.

SURVEYORS NARRATIVE

The purpose of this survey was to provide topographic information for the assistance in calculating the volume of soil removed from the site located at the TOOELE ARMY DEPOT.

Date _____ Dusty L. Bishop
License no. 4938720

VOLUMES CALCULATED ARE BASED ON INFORMATION GATHERED IN THE FIELD AFTER THE EXCAVATING WAS COMPLETED.

SURFACE BEFORE EXCAVATION CONTOURS ARE ESTIMATED BASED ON EXISTING UNDISTURBED GROUND.

ENGINEERING PLANNING SURVEYING

7 South Main Street, Suite 104
Tombah, Utah 84074
Phone: (801) 255-4444
Fax: (801) 255-4444
Email: info@laguna.com

Project: TOOELE ARMY DEPOT VOLUME SURVEY
Date: 10/1/2024

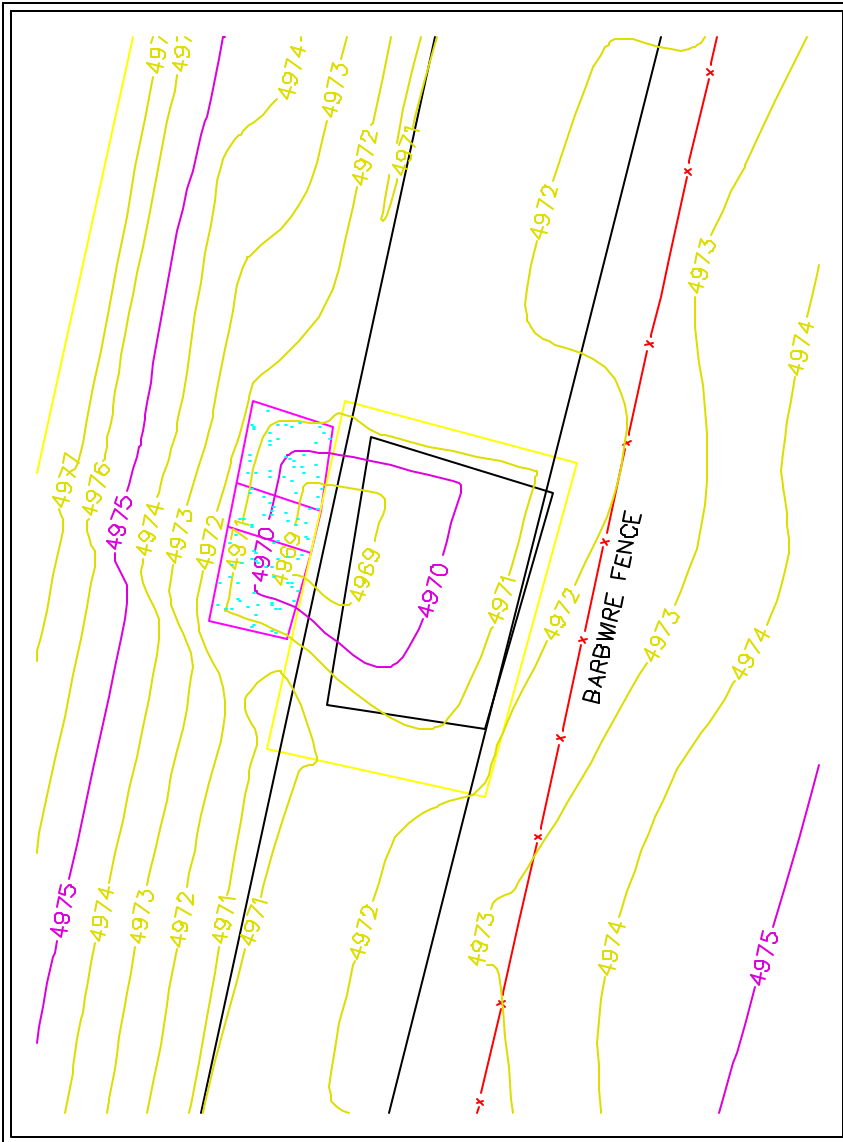
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TOOELE ARMY DEPOT VOLUME SURVEY
TOOELE, UTAH 84074
LAGUNA CONSTRUCTION COMPANY INCORPORATED
VOLUME TOPOGRAPHY

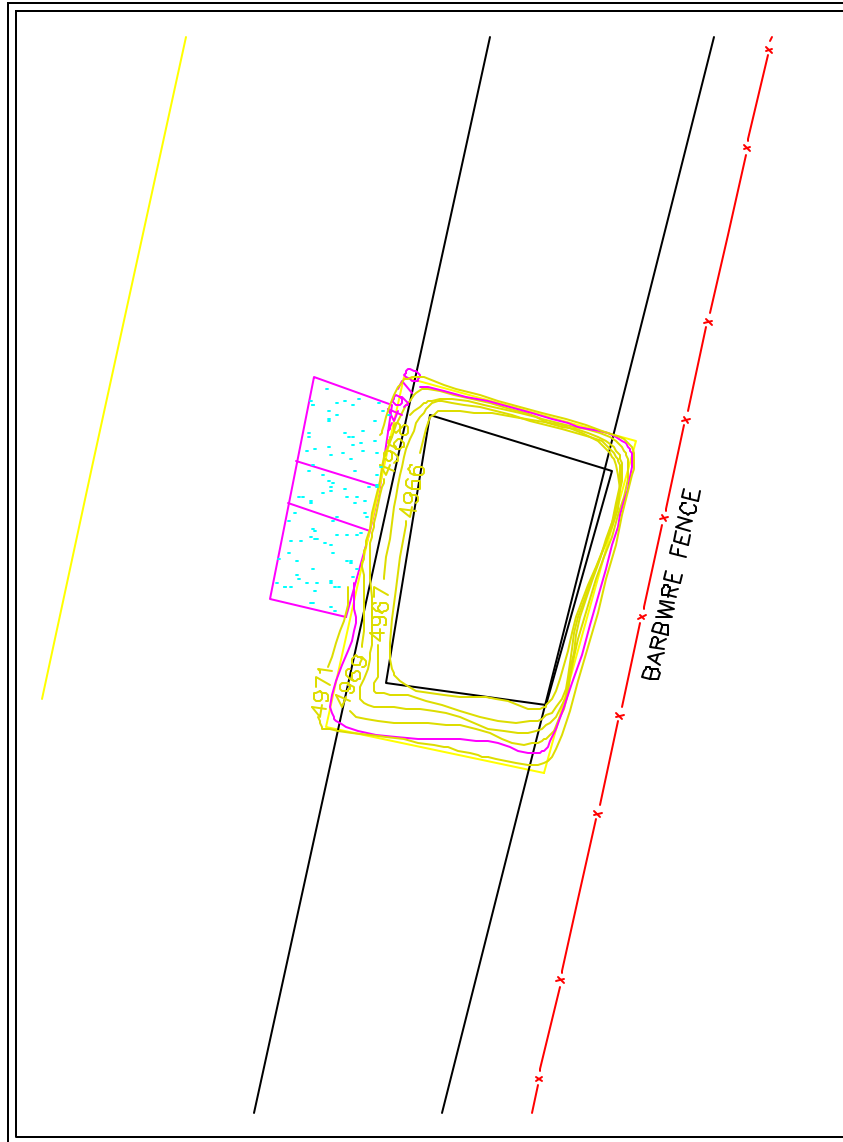
File: TOOELE ARMY DEPOT VOLUME SURVEY.dwg
User: DLB
Date: 10/1/2024
Sheet: 1 of 1

COMPOSITE VOLUME
NET=36 YARDS OF SOIL REMOVED FROM SITE

SURFACE BEFORE EXCAVATION



SURFACE AFTER EXCAVATION



SURVEYORS CERTIFICATE

I, Dusty L. Bishop, do hereby certify that I am a Registered Professional Land Surveyor in the State of Utah, and that I hold certificate No. 4938720 as prescribed by the laws of the State of Utah and represent that I have conducted a topographic survey of the following described property.

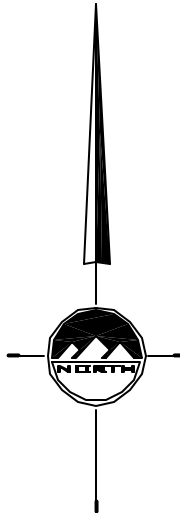
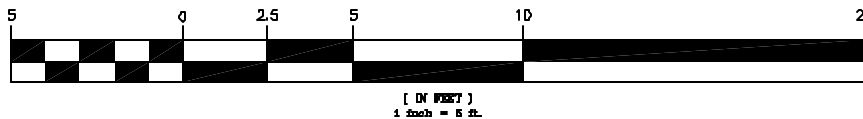
SURVEYORS NARRATIVE

The purpose of this survey was to provide topographic information for the assistance in calculating the volume of soil removed from the site located at the TODELE ARMY DEPOT.

Date _____ Dusty L. Bishop
License no. 4938720

VOLUMES CALCULATED ARE BASED ON
INFORMATION GATHERED IN THE FIELD AFTER
THE EXCAVATING WAS COMPLETED.

SURFACE BEFORE EXCAVATION CONTOURS
ARE ESTIMATED BASED ON EXISTING
UNDISTURBED GROUND.



GRAPHIC SCALE

APPENDIX G

Project Variances

VARIANCE

Contract Number: DACW05-00-D-0025

Page 1 of 1

Project Name: SWMU 52D, Tooele Army Depot, Tooele, UT. Date: 22 November 2002

Variance Number: 1

Variance (include justification):

The Final Corrective Measures Work Plan (CMWP) dated October 2002 calls for a required Quantitation Limit (QL) of 0.050 mg/kg for all confirmation soil samples to be analyzed for Total Chlordane by method SW3550B/ SW8081. Since the issuance of the Final CMWP, it has been determined that the QL limitation achievable by the primary laboratory is 0.066 mg/kg. Due to the Corrective Action Objective (CAO) of 1.5 mg/kg (approximately 22 times the QL) for the confirmation samples, it is not anticipated that this increase in required QL will cause any change in the remedial actions of SWMU 52D.

The Final Corrective Measures Work Plan (CMWP) dated October 2002 calls for a required Quantitation Limit (QL) of 0.00005 mg/L for waste characterization leachate samples analyzed for Lindane, Heptachlor and Heptachlor Epoxide by method SW1331 using Toxic Characteristic Leaching Procedure (TCLP). Since the issuance of the Final CMWP, it has been determined that the QL limitation achievable by the primary laboratory is 0.0001 mg/L for these analytes using TCLP. Due to the TCLP limit of 0.008 mg/L for Heptachlor and Heptachlor Epoxide (approximately 80 times the QL) and 0.4 mg/L for Lindane (approximately 4000 times the QL) it is not anticipated that these changes in achievable QL for the waste characterization samples will alter the characterization or profiling of the waste generated at SWMU 52D.

Requested by: Cynthia Mitchener, Technical Team Leader

Date: 22 November 2002

Signature: Cynthia Mitchener

Approved by: Fred Strickland, Project Manager

Date: 22 November 2002

Signature: Fred Strickland

QA Officer: Pamela Wehrmann, Project Chemist

Date: 22 November 2002

Signature: Pamela Wehrmann

PROPOSED VARIANCE

Contract Number: DACW05-00-D-0025

Page 1 of 1

Project Name: SWMU 52D, Tooele Army Depot, Tooele, UT. Date: 28 May 2003

Variance Number: 2

Variance (include justification):

The Final Corrective Measures Work Plan (CMWP) dated October 2002 calls for sampling of the excavation floor at 52D using a grab sample technique where a soil sample is taken from one location from the floor of the excavation. At the beginning of the project, the anticipated floor size was 10 feet by 10 feet. Now the excavated floor size is 15 feet by 22 feet which is 3.3 times the size of the original excavation floor. It should also be noted that the floor of the excavation now stands at approximately 4.5 feet below ground surface.

The Army Corps of Engineers proposes that a four-point composite sample be taken from the floor of the excavation. The Corps believes that the resulting one sample from the floor is more representative of the actual conditions in the field and more representative of the concentrations that may be encountered on the floor of the excavation than a single grab sample. The four points taken for the composite sample would be from areas at least 5 feet apart from the each of the other point samples comprising the composite. In this protocol, a greater representative area of soil would be sampled for concentration purposes.

Requested by: Cynthia Mitchener, Technical Team Leader

Date: 28 May 2003

Signature: Cynthia Mitchener

Approved by: Fred Strickland, Project Manager

Date: 28 MAY 2003

Signature: Fred Strickland

QA Officer: Pamela Wehrmann, Project Chemist

Date:

Signature: Pamela Wehrmann

5/28/03

APPENDIX H

Chemical Data Quality Assessment Report

**CHEMICAL DATA QUALITY ASSESSMENT REPORT
SWMU 52D
TOOELE ARMY DEPOT
TOOELE, UTAH**

A Report Prepared for:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922

April 2004

Prepared by:

Jedd Parr
Project Engineer
SCA Environmental, Inc.

Reviewed by:

Kenneth Conner, PE, CHMM
Senior Project Manager
SCA Environmental, Inc.

SCA Environmental, Inc.
334 19th Street
Oakland, California 94612
(510) 645-6200

LCC Project No. 2001-15 / SCA Project No. B-5063

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1 SUMMARY

This report documents the review of analytical data associated with the soil sampling at Solid Waste Management Unit (SWMU) 52D, at the Tooele Army Depot (TEAD), in Tooele, Utah.

Primary and quality control (QC) samples were collected by SCA Environmental (SCA), and analyzed by Mountain States Analytical (MSA) of Salt Lake City, Utah, for total chlordane. Severn-Trent Laboratories (STL) of Sacramento, California, analyzed quality assurance (QA) samples for total chlordane, and reported the data directly to the USACE. Therefore, QA sample data is outside the scope of this report.

Environmental samples and quality control (QC) data have been evaluated according to the Quality Assurance Project Plan (QAPP) (USACE, 1999) specifications for TEAD. QC issues were also reviewed for compliance to the prevalent United States Environmental Protection Agency (USEPA) SW-846 analytical methods, and the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, 1999 Revision.

Analytical data and other information contained within the data packages associated with this report have undergone review to evaluate the levels of accuracy, precision, and completeness. Unless otherwise noted, sample storage, preparation, analysis, reporting, and QC measures were performed in accordance with project-specific acceptance criteria and applicable analytical methodologies.

MSA demonstrated that the required target analytes were accurately identified and quantified. Based on the review, the overall quality for the laboratory work provided by MSA appears to be good.

2 INTRODUCTION

2.1 OBJECTIVE

This Chemical Data Quality Assessment Report (CDQAR) has been generated to document that SCA has examined data for samples associated with the soil sampling events at SWMU 52D. The data have been reviewed to verify that the work performed met requirements of the USEPA SW-846, 3rd Edition (EPA, 1994a) and the QAPP (USACE, 1999) for TEAD.

2.2 APPROACH

Analytical data were reviewed and QC measures assessed according to the SWMU 52D project specifications, prevalent EPA SW-846 analytical methods, and USEPA CLP National Functional Guidelines for Organic Data Review, 1994 Revision (EPA, 1999).

The data from cleanup actions at TEAD are being managed by Synectics, of Sacramento, CA. Data were to be entered by the laboratories (in this case, MSA) to correspond with the contractor's field sample locations. These data were then to be reviewed by a database screening process, and a series of data review reports were to be generated. These review reports were then to be used by SCA for the purposes of data validation. However, as of December 31, 2003, MSA is no longer in business. Sample results were uploaded to the database, but data crucial to validation (such as surrogate recoveries, calibration measurements, etc.) were not, and presumably will not be in the future. Therefore, analytical reports were used to validate the data by hand, according to the TEAD CDQMP.

2.3 PROJECT BACKGROUND

Soil samples were collected from SWMU52D (also known as the Horse Stable Area) during a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) and a subsequent supplemental investigation. Chlordane was detected above the Corrective Action Objective (CAO) screening level in one surface soil sample located on the west side of the Horse Stable Area. The Corrective Measures Study (CMS) Work Plan (URS Dames & Moore, 2001a) identified chlordane as the only chemical of concern (COC) for surface soils in the Horse Stable Area. No other COCs were identified at this site. The CMS Report (URS Dames & Moore, 2001b) determined that excavation and off-post disposal of approximately 28 cubic yards of soil impacted by chlordane was the most appropriate remediation alternative for SWMU 52D.

SWMU 52D is being managed under the RCRA Post-Closure Permit issued to TEAD by the State of Utah Department of Environmental Quality (UDEQ), Division of Solid and Hazardous Waste. Verification and validation of the selected chemical analyses for soil samples were performed to evaluate the validity and usefulness of the data for use in decision-making.

A total of thirteen (13) primary and quality control samples were collected from seven (7) sampling locations (all within the area of excavation). A summary of the sample IDs, dates, and results is included below. These samples were submitted to MSA for total chlordane analysis by EPA Method 8081A. Unless otherwise noted, "Chlordane" refers to Chlordane (NOS), CAS # 57-74-9.

Sample ID	Date Sampled	Total Chlordane (in µg/Kg) by EPA Method 8081A	MSA Work Order
SWMU52-CS-01-1	11/21/02	938	0211190
SWMU52-CS-02-1	11/21/02	5,860	0211190
SWMU52-CS-03-1	11/21/02	3,710	0211190
SWMU52-CS-04-1	11/21/02	2,610	0211190
SWMU52-CS-05-1*	11/21/02	2,390	0211190
SWMU52-CS-06-1.25	11/26/02	957	0211244
SWMU52-CS-07-1.25	11/26/02	1,650	0211244
SWMU52-CS-08-2.5	11/26/02	2,090	0211244
SWMU52-CS-15-2	02/05/03	687	0302039
SWMU52-CS-16-2**	02/05/03	466	0302039
SWMU52-CS-17-3.5	02/05/03	5,160	0302039
SWMU52-CS-18-4.5	05/28/03	627	0305188
SWMU52-CS-19-4.5***	05/29/03	830	0305188

Notes:

µg/Kg = micrograms per kilogram (also parts per billion [ppb])

Corrective Action Objective (CAO) = 1500 µg/Kg

* = Field duplicate (QC) sample for SWMU52-CS-04-1

** = Field duplicate (QC) sample for SWMU52-CS-15-2

*** = Field duplicate (QC) sample for SWMU52-CS-18-4.5

3 SAMPLE ANALYSIS

3.1 QUALITY ASSURANCE / QUALITY CONTROL OBJECTIVE

3.1.1 Instrument Performance

Instrument checks are performed to ensure that the instrument is capable of producing acceptable, identifiable, and quantifiable data. Instrument performance was reviewed based on initial and continuing calibration data provided.

3.1.2 Precision and Accuracy

Analytical data were reviewed for precision and accuracy. Precision was evaluated using the Relative Percent Difference (RPD) values of the primary and duplicate paired samples, and between matrix spike and matrix spike duplicate (MS/MSD) samples. Accuracy assessment was evaluated using the percent recovery values of the MS, MSD, LCS, and surrogate data. An MS or MSD is a primary sample spiked with known concentration of target compounds. An LCS is a laboratory-prepared blank matrix sample, spiked with known concentration of target compounds. A surrogate is a compound spiked into the sample for organic analysis that is uncommon in the environment but which is appropriate to the method being used.

SCA was responsible for the selection of parent samples for field duplicates and MS/MSD pairs. The laboratory was responsible for the choice of parent sample for laboratory duplicates. When a MS/MSD was not indicated on the chain of custody form per analytical request or batch, the laboratory performed a laboratory control sample and laboratory control sample duplicate (LCS/LCSD) pair to evaluate precision.

3.1.3 Field Cross Contamination

Blank data is used to evaluate the analytical data for possible field and/or laboratory cross contamination. Rinseate blanks were collected to monitor field equipment decontamination. Method blanks are laboratory-prepared blank matrix samples that are included in all preparation of analytical batches to monitor laboratory activities.

3.2 QUALITY CONTROL SAMPLES

3.2.1 Equipment Blanks

Two equipment blanks (rinseates) were collected by SCA. RINS52D-1 was collected on November 21, 2002, and RINS52D-2 was collected on February 5, 2003. MSA analyzed both rinseates for total chlordane. No chlordane was found above the detection limit in either sample.

3.3 ANALYTICAL DATA EVALUATION

The following section provides a summary of the parameters evaluated during verification and validation of the analytical data. A note: MSA's Practical Quantitation Limits (PQLs) were often higher than those initially set by the Final Corrective Measures Work Plan (later modified in a variance submitted to the USACE and UDEQ). The elevated PQLs were a result of high target analyte concentration and necessary dilutions. No data have been flagged as a result of the PQL discrepancies because, in most cases, the PQLs were below the cleanup level, and in all cases, the PQLs were significantly below the sample results.

3.3.1 Sample Receipt

SCA collected thirteen (13) primary and QC samples from November 21, 2002, to May 29, 2003. The temperatures of the sample coolers at the time of laboratory sample receipt were noted on the cooler receipt forms and are included in the final reports.

All samples received by MSA had proper chain of custody documentation. All of the recorded temperatures of the sample coolers at the time of laboratory sample receipt were within the temperature requirement of 4°Celsius (C) $\pm 2^{\circ}\text{C}$.

3.3.2 Holding Times

All holding times were met for the samples collected at SWMU 52D.

3.3.3 Total Chlordane by EPA Method 8081A

MSA performed total chlordane analysis by Gas Chromatography (GC) using EPA Method 8081A.

Initial and Continuing Calibration

Initial and continuing calibrations were performed in accordance with EPA Method 8081A. All control limit guidelines have been met with the exception of the following:

- Samples SWMU52D-CS-15-2, SWMU52D-CS-16-2, and SWMU52D-CS-17-3.5 were extracted and analyzed on 2/6/03 under Work Order 0302039. They were re-extracted on 2/19/03 and re-analyzed on 2/24/03 due to high surrogate recoveries in the first run (see below, Sample and QC Data). For the second run, a high response was noted in the Continuing Calibration Verification (CCV) for the alpha/gamma-chlordane. This may have resulted in a high bias for chlordane in the second run sample results. Due to this factor, the sample results from the first run were used, and the second extracts were not re-analyzed.

Sample and QC Data

A sufficient number of samples were collected, prepared, and analyzed during this sampling event. All of the primary and QC samples were within the project-specific control limits except for the following:

- The MS/MSD recoveries for 4,4'-DDT are outside (low) acceptance limits for Work Order 0211190. The laboratory attributed this to matrix interference. Per the TEAD CDQMP, chlordane was not a required spike compound. Although MS/MSD recoveries for the other 5 spiked compounds were acceptable, a possible low bias may exist for chlordane in primary samples SWMU52D-CS-01-1, SWMU52D-CS-02-1, SWMU52D-CS-03-1, SWMU52D-CS-04-1, and QC sample SWMU52D-CS-05-1.
- The surrogate decachlorobiphenyl (DCBP) had a slightly high recovery in the LCS for Work Order 0211190. This may have resulted in a high bias for chlordane in primary samples SWMU52D-CS-01-1, SWMU52D-CS-02-1, SWMU52D-CS-03-1, SWMU52D-CS-04-1, and QC sample SWMU52D-CS-05-1.
- Surrogates DCBP and tetrachloro-m-xylene were recovered above project limits in sample SWMU52D-CS-02-1 (Work Order 0211190), due to dilution. This may have resulted in a high bias for chlordane in this sample.
- DCBP was recovered above project limits in the LCS, MS, and MSD samples for Work Order 0302039. DCBP was also recovered above project limits in all 3 primary samples (SWMU52D-CS-15-2, SWMU52D-CS-16-2, and SWMU52D-CS-17-3.5). Also recovered above project limits for this work order was tetrachloro-m-xylene in sample SWMU52D-CS-17-3.5. These results may indicate a possible high bias for chlordane in these samples.

3.4 QC SAMPLE SUMMARY

Three (3) field duplicate (QC) samples were collected during the sampling events at SWMU 52D, on the following dates: November 21, 2002, February 5, 2003, and May 29, 2003. MSA analyzed the field duplicate samples for total chlordane. The following table outlines the RPD results for each primary/QC pair. All RPDs for the primary/QC pairs were within project-specific control limits of 35%, with the exception of primary sample SWMU52D-CS-15-2 and QC sample SWMU52D-CS-16-2 (see below).

Primary Sample ID	Primary Result (mg/Kg)	QC Sample ID	QC Result (mg/Kg)	RPD (%)	Within Limits?
SWMU52D-CS-04-1	2610	SWMU52D-CS-05-1	2390	8.8	Yes
SWMU52D-CS-15-2	687	SWMU52D-CS-16-2	466	38.3	No
SWMU52D-18-4.5	627	SWMU52D-19-4.5	830	27.9	Yes

4 CONCLUSIONS

Analytical data met the majority of project requirements specified in the TEAD CDQMP. The QC analyses performed provide a sound basis for good analytical data. Required limits were met according to TEAD CDQMP requirements, with a few exceptions, and deemed not to affect the quality of the data.

The final levels for precision and accuracy measured for the majority of the surrogate, MS, MSD, and LCS recoveries met the project requirements specified in the QAPP. Minor deficiencies in the sample analyses may result in data qualification due to non-conformance with QC protocol and procedures, and are not considered likely to affect the quality of the data.

Overall, MSA data quality for the SWMU 52D Removal Action appears to be good. The blind field duplicate and the QC duplicate results confirmed that MSA accurately identified and quantified the required target analytes. In our opinion, the analytical results are acceptable and useable, with the noted qualifications.

5 REFERENCES

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